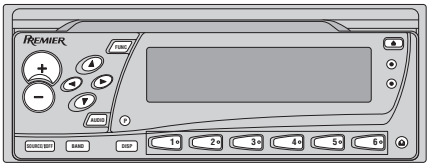
Service Manual

Pioneer

DEH-66DH



ORDER NO.
CRT2301

HIGH POWER CD PLAYER WITH FM/AM TUNER

DEH-66DH UC

DEH-46DH UC

COMPACT disc DIGITAL AUDIO

- **See the separate manual CX-597(CRT1829) for the CD mechanism description, disassembly and circuit description.**
- **The CD mechanism employed in this model is one of S7 series.**

● CD Player Service Precautions

1. For pickup unit(CXX1230) handling, please refer to"Disassembly"(CX-597 Service Manual CRT1829). During replacement, handling precautions shall be taken to prevent an electrostatic discharge(protection by a short pin).
2. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
3. Please checking the grating after changing the service pickup unit(see page 55).

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K-ZZD. NOV. 1998 Printed in Japan

1. SAFETY INFORMATION

CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

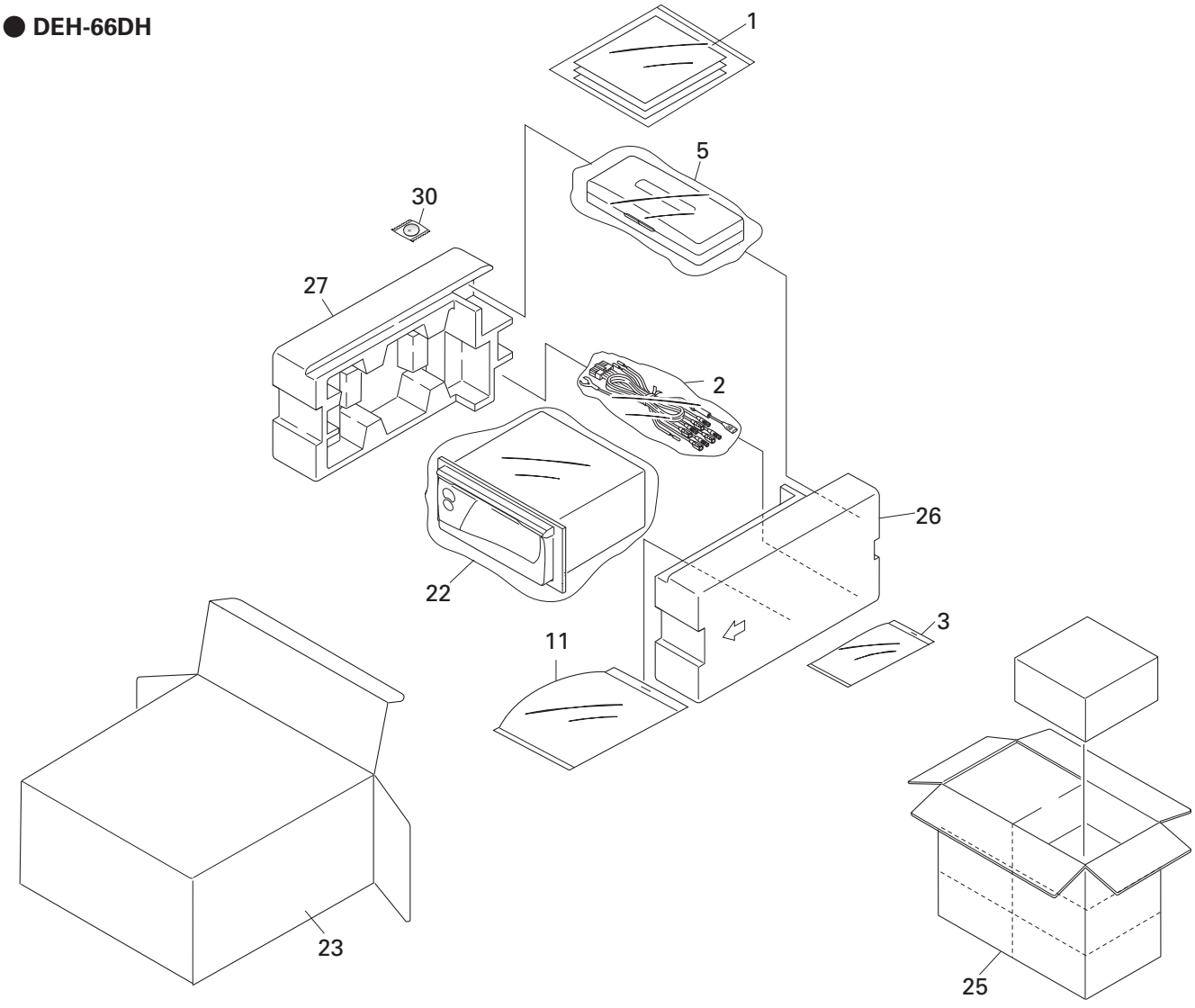
WARNING

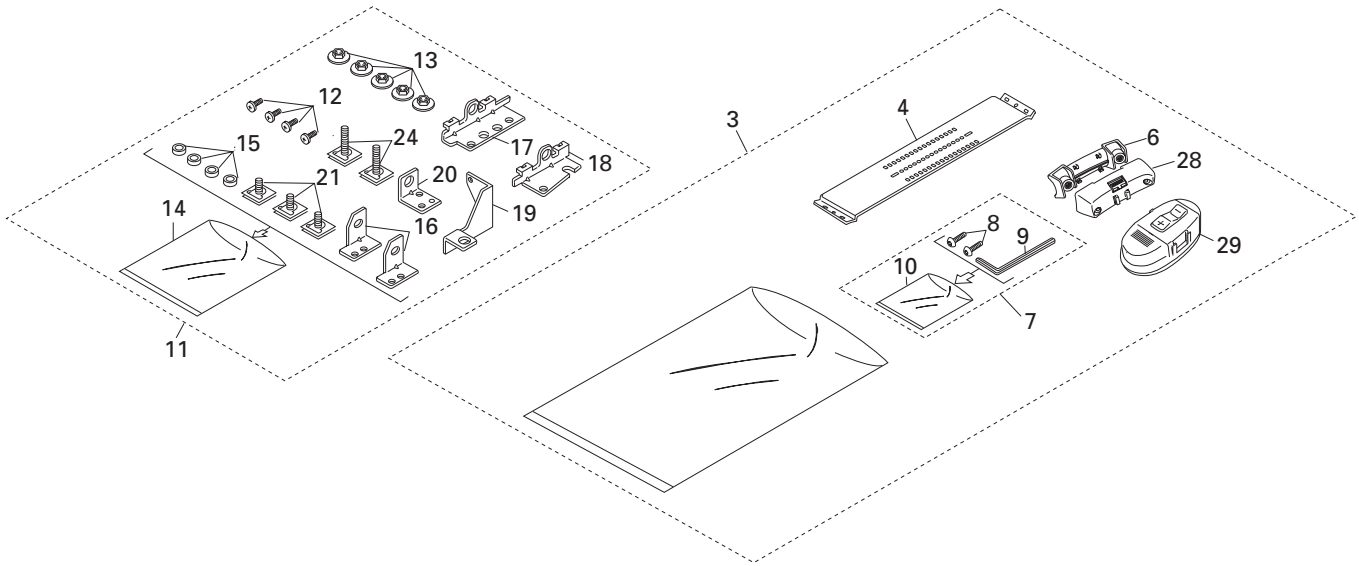
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.
Health & Safety Code Section 25249.6 - Proposition 65

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING

● **DEH-66DH**





NOTE:

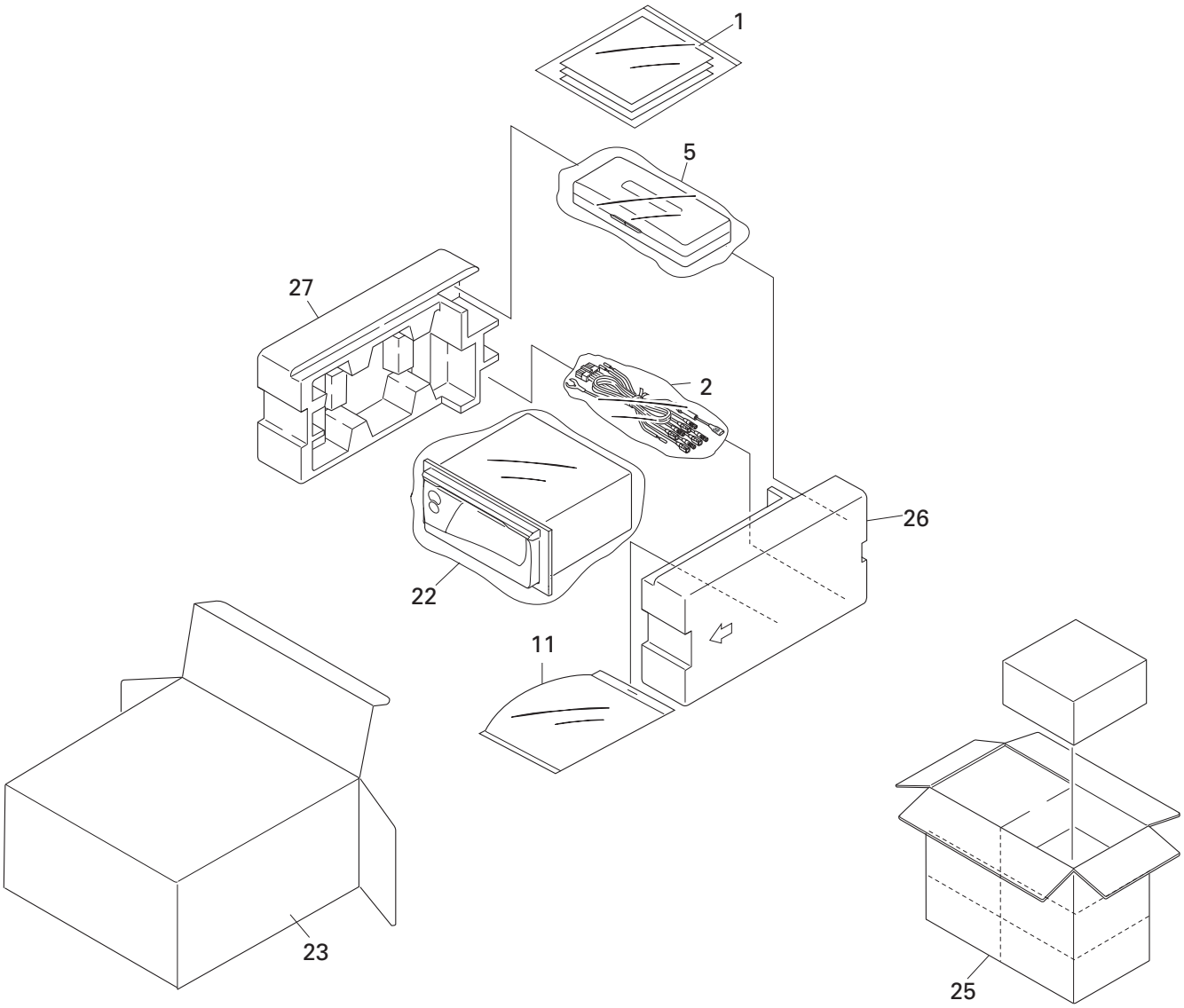
- Parts marked by "*" are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.

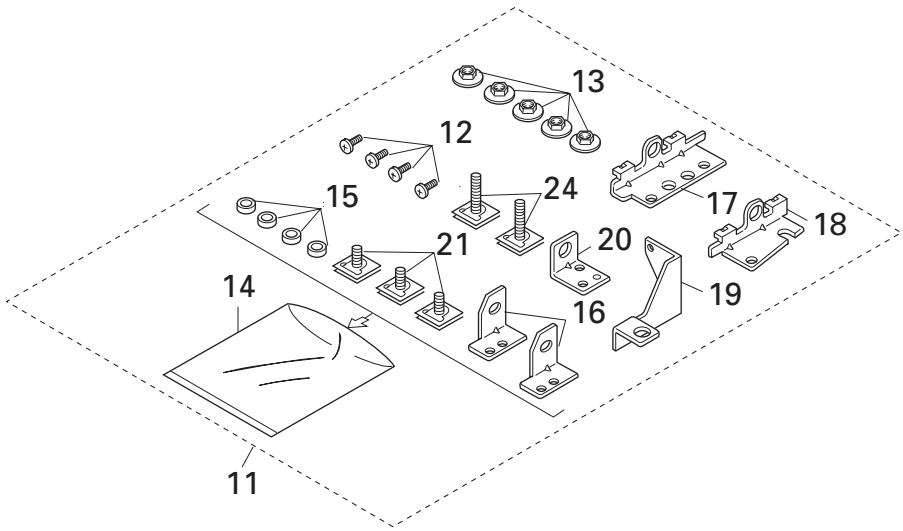
● PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
	1-1	Owner's Manual (English, French)	CRD2869
	1-2	Installation Manual (English, French)	CRD2870
	1-3	Polyethylene Bag	CEG1116
*	1-4	Warranty Card	CRY1070
*	1-5	Label	CRW1343
*	1-6	Caution Card	CRP1158
	2	Cord Assy	CDE5885
	3	Remote Control Assy	CXB3488
	4	Belt	CZN6416
	5	Detach Case Assy	CXB3705
	6	Holder Assy	CZX3173
	7	Screw Assy	CZE3169
*	8	Screw	RMZ30H060FBK
*	9	Hexagonal Wrench	CZE3176
*	10	Polyethylene Bag	CEG-127
	11	Accessory Assy	CEA2006
	12	Screw	BSZ30P050FMC
	13	Nut	CBN1012

Mark	No.	Description	Part No.
*	14	Polyethylene Bag	CEG1101
	15	Spacer	CLA2598
	16	Bracket	CNC6767
	17	Bracket	CNC5506
	18	Bracket	CNC5507
	19	Bracket	CNC5686
	20	Bracket	CNC5687
	21	Bolt Unit	CXA7960
	22	Cover	CEG1228
	23	Carton	CHG3678
	24	Bolt Unit	CXA7961
	25	Contain Box	CHL3678
	26	Protector	CHP2113
	27	Protector	CHP2114
	28	Holder Assy	CZX3172
	29	Remote Control Assy	CZX3231
	30	Battery	CEX1030

● **DEH-46DH**



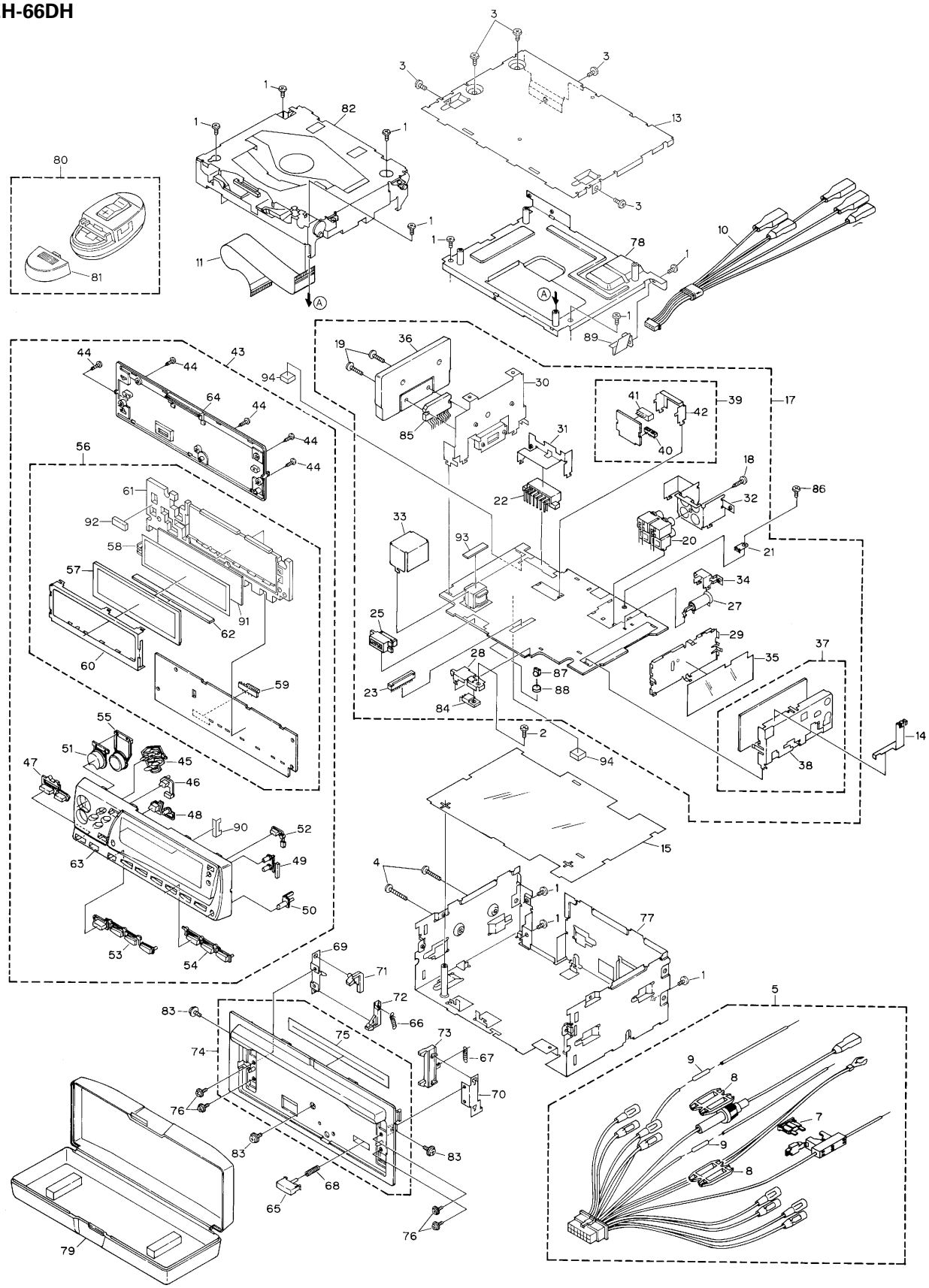


● PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
*	1-1	Card	ARY1048
	1-2	Owner's Manual (English, French)	CRD2871
	1-3	Installation Manual (English, French)	CRD2872
	1-4	Polyethylene Bag	CEG1116
	2	Cord Assy	CDE5885
	3,4	•••••	
	5	Detach Case Assy	CXB3705
	6-10	•••••	
	11	Accessory Assy	CEA2006
	12	Screw	BSZ30P050FMC
	13	Nut	CBN1012
*	14	Polyethylene Bag	CEG1101
	15	Spacer	CLA2598
	16	Bracket	CNC6767
	17	Bracket	CNC5506
	18	Bracket	CNC5507
	19	Bracket	CNC5686
	20	Bracket	CNC5687
	21	Bolt Unit	CXA7960
	22	Cover	CEG1228
	23	Carton	CHG3677
	24	Bolt Unit	CXA7961
	25	Contain Box	CHL3677
	26	Protector	CHP2113
	27	Protector	CHP2114

2.2 EXTERIOR

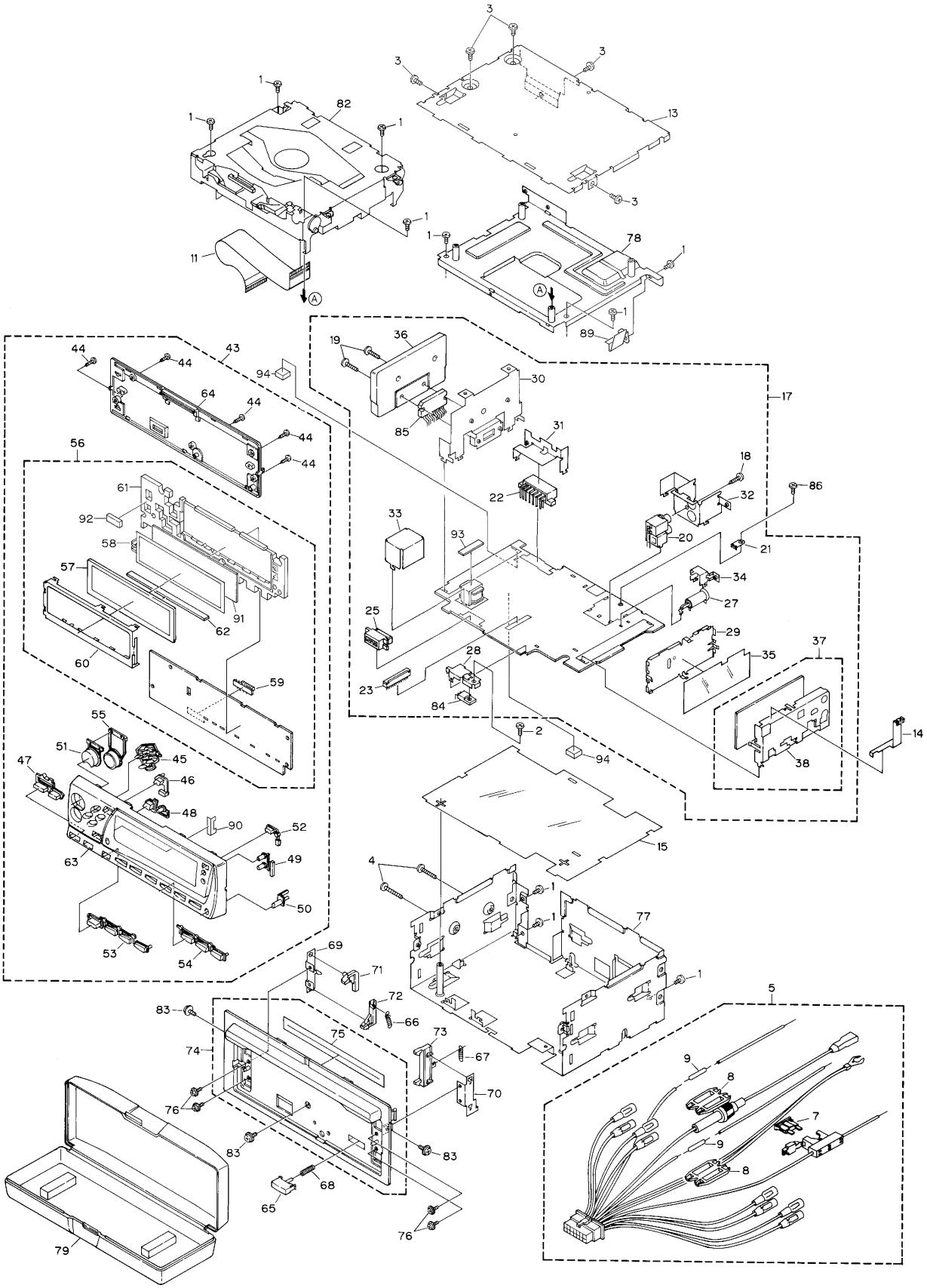
● **DEH-66DH**



● EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BSZ26P060FMC
	2	Screw	BSZ26P080FMC
	3	Screw	BSZ30P050FMC
	4	Screw	BSZ30P200FMC
	5	Cord Assy	CDE5885
	6	•••••	
	7	Fuse(10A)	CEK1136
	8	Cap	CNS1472
	9	Resistor	RS1/2PMF102J
	10	Cord Assy	CDE5997
	11	Cable	CDE5269
	12	•••••	
	13	Case	CNB2468
	14	Holder	CNC7005
	15	Insulator	CNM5076
	16	•••••	
	17	Tuner Amp Unit	CWM6381
	18	Screw	BPZ26P100FMC
	19	Screw	BSZ26P160FMC
	20	Pin Jack(CN251)	CKB1031
	21	Terminal(CN504)	CKF1059
	22	Plug(CN901)	CKM1304
	23	Connector(CN651)	CKS2255
	24	•••••	
	25	Connector(CN801)	CKS3581
	26	•••••	
	27	Antenna Jack(CN503)	CKX1056
	28	Holder	CNC5013
	29	Holder	CNC8021
	30	Holder	CNC8278
	31	Holder	CNC6892
	32	Holder	CNC7197
	33	Holder	CNC6889
	34	Holder	CNC7001
	35	Insulator	CNM4684
	36	Heat Sink	CNR1435
	37	FM/AM Tuner Unit	CWE1417
	38	Holder	CNC6555
	39	Detach Alarm Unit	CWM5291
	40	Plug(CN852)	CKS1617
	41	Connector(CN851)	CKS3585
	42	Holder	CNC6912
	43	Detach Grille Assy	CXB3730
	44	Screw	BPZ20P100FZK
	45	Button	CAC5947
	46	Button(FUNC)	CAC4887
	47	Button(SOURCE)	CAC4888
	48	Button(AUDIO)	CAC4889
	49	Button(LOUD,CLOCK)	CAC4893
	50	Button(DETACH)	CAC5951
	51	Button(+)	CAC5945
	52	Button(EJECT)	CAC5948
	53	Button(1,2,3,DISP)	CAC5949
	54	Button(4,5,6)	CAC5950
	55	Button(-)	CAC5946
	56	Keyboard Unit	CWX2091
	57	LCD	CAW1390
	58	EL	CEL1488
	59	Connector(CN1901)	CKS3580
	60	Holder	CNC7198
	61	Holder	CNV4772
	62	Connector	CNV4791
	63	Grille Unit	CXB3512
	64	Cover Unit	CXB3513
	65	Button	CAC5180
	66	Spring	CBH1834
	67	Spring	CBH1835
	68	Spring	CBH1996
	69	Bracket	CNC6135
	70	Bracket	CNC6791
	71	Arm	CNV4692
	72	Arm	CNV4693
	73	Arm	CNV4951
	74	Panel Unit	CXB3507
	75	Cover	CNM4875
	76	Screw	IMS20P040FZK
	77	Chassis Unit	CXA9714
	78	Chassis Unit	CXA9718
	79	Detach Case Assy	CXB3705
	80	Remote Control Assy	CZX3231
	81	Cover	CZN6410
	82	CD Mechanism Module	CXK5005
	83	Screw	ISS26P060FZK
	84	Transistor(Q971)	2SD2396
	85	IC(IC201)	PAL005A
	86	Screw	ISS26P060FMC
	87	LED(D851)	BR4361F
	88	Bush	CNV-724
	89	Holder	CNC8190
	90	Spacer	CNM5385
*	91	Cushion	CNM5316
*	92	Cushion	CNM5315
*	93	Cushion	CNM6297
	94	Spacer	CNM4154

● DEH-46DH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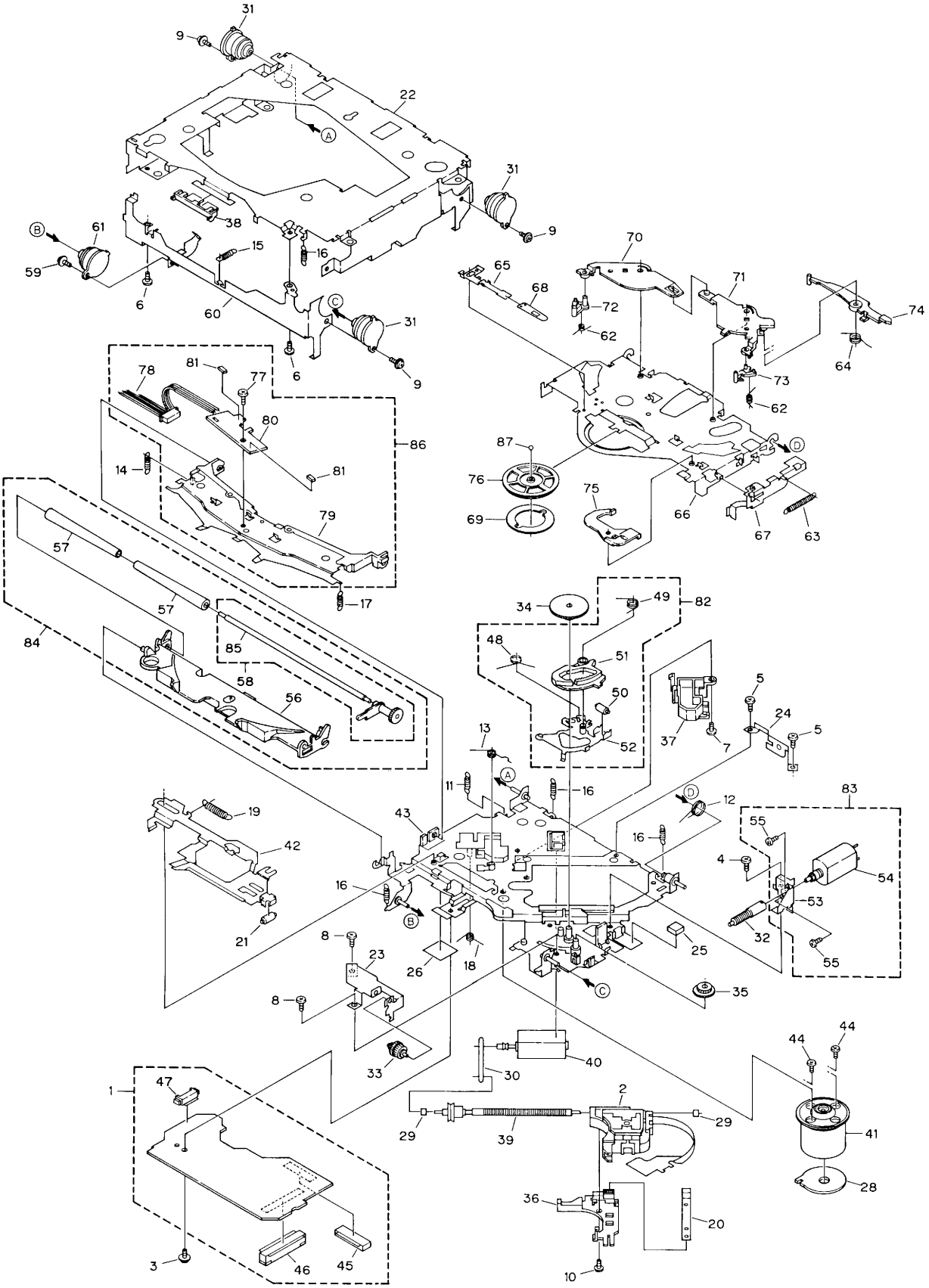
● EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BSZ26P060FMC
	2	Screw	BSZ26P080FMC
	3	Screw	BSZ30P050FMC
	4	Screw	BSZ30P200FMC
	5	Cord Assy	CDE5885
	6	•••••	
	7	Fuse(10A)	CEK1136
	8	Cap	CNS1472
	9	Resistor	RS1/2PMF102J
	10	•••••	
	11	Cable	CDE5269
	12	•••••	
	13	Case	CNB2468
	14	Holder	CNC7005
	15	Insulator	CNM5076
	16	•••••	
	17	Tuner Amp Unit	CWM6382
	18	Screw	BPZ26P100FMC
	19	Screw	BSZ26P160FMC
	20	Pin Jack(CN251)	CKB1032
	21	Terminal(CN504)	CKF1059
	22	Plug(CN901)	CKM1304
	23	Connector(CN651)	CKS2255
	24	•••••	
	25	Connector(CN801)	CKS3581
	26	•••••	
	27	Antenna Jack(CN503)	CKX1056
	28	Holder	CNC5013
	29	Holder	CNC8021
	30	Holder	CNC8278
	31	Holder	CNC6893
	32	Holder	CNC7199
	33	Holder	CNC6889
	34	Holder	CNC7001
	35	Insulator	CNM4684
	36	Heat Sink	CNR1435
	37	FM/AM Tuner Unit	CWE1417
	38	Holder	CNC6555
	39-42	•••••	
	43	Detach Grille Assy	CXB3731
	44	Screw	BPZ20P100FZK
	45	Button	CAC5947
	46	Button(FUNC)	CAC4887
	47	Button(SOURCE)	CAC4888
	48	Button(AUDIO)	CAC4889
	49	Button(LOUD,CLOCK)	CAC4893
	50	Button(DETACH)	CAC5951
	51	Button(+)	CAC5945
	52	Button(EJECT)	CAC5948
	53	Button(1,2,3,DISP)	CAC5949
	54	Button(4,5,6)	CAC5950
	55	Button(-)	CAC5946
	56	Keyboard Unit	CWX2091
	57	LCD	CAW1390
	58	EL	CEL1488
	59	Connector(CN1901)	CKS3580
	60	Holder	CNC7198
	61	Holder	CNV4772
	62	Connector	CNV4791
	63	Grille Unit	CXB3511
	64	Cover Unit	CXB3513
	65	Button	CAC5180
	66	Spring	CBH1834
	67	Spring	CBH1835
	68	Spring	CBH1996
	69	Bracket	CNC6135
	70	Bracket	CNC6791
	71	Arm	CNV4692
	72	Arm	CNV4693
	73	Arm	CNV4951
	74	Panel Unit	CXB3507
	75	Cover	CNM4875
	76	Screw	IMS20P040FZK
	77	Chassis Unit	CXA9715
	78	Chassis Unit	CXA9718
	79	Detach Case Assy	CXB3705
	80,81	•••••	
	82	CD Mechanism Module	CXK5005
	83	Screw	ISS26P060FZK
	84	Transistor(Q971)	2SD2396
	85	IC(IC201)	PAL005A
	86	Screw	ISS26P060FMC
	87,88	•••••	
	89	Holder	CNC8190
	90	Spacer	CNM5385
*	91	Cushion	CNM5316
*	92	Cushion	CNM5315
*	93	Cushion	CNM6297
	94	Spacer	CNM4154

2.3 CD MECHANISM MODULE



● CD MECHANISM MODULE SECTION PARTS LIST

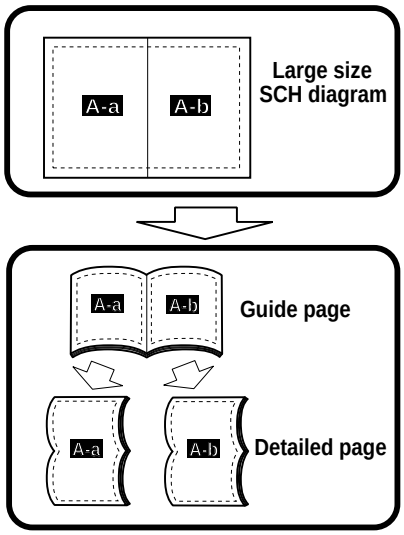
Mark	No.	Description	Part No.
	1	Control Unit	CWX2268
	2	Pickup Unit(Service)	CXX1230
	3	Screw	IMS26P035FMC
	4	Screw	BMZ20P025FMC
	5	Screw	BMZ20P040FMC
	6	Screw	BSZ20P040FMC
	7	Screw	CBA1077
	8	Screw	CBA1250
	9	Screw	CBA1296
	10	Screw	CBA1362
	11	Spring	CBH1724
	12	Spring	CBH1729
	13	Spring	CBH1730
	14	Spring	CBH1731
	15	Spring	CBH1732
	16	Spring	CBH1745
	17	Spring	CBH1848
	18	Spring	CBH1849
	19	Spring	CBH1939
	20	Spring	CBL1214
	21	Roller	CLA2627
	22	Frame	CNC5796
	23	Bracket	CNC5871
*	24	Bracket	CNC6376
	25	Cushion	CNM3917
	26	Sheet	CNM4873
	27	•••••	
*	28	PCB	CNP4230
	29	Bearing	CNR1415
	30	Belt	CNT1071
	31	Damper	CNV3974
	32	Gear	CNV5789
	33	Gear	CNV5820
	34	Gear	CNV4857
	35	Gear	CNV5821
	36	Holder	CNV4663
	37	Holder	CNV5071
	38	Guide	CNV5823
	39	Screw Unit(S7)	CXA8699
	40	CRG Motor Unit(S7)(M2)	CXB3043
	41	Motor Unit(M1)	CXA8912
	42	Lever Unit	CXA9300
	43	Chassis Unit	CXB2574
	44	Screw	JFZ20P025FMC
	45	Connector(CN101)	CKS1953

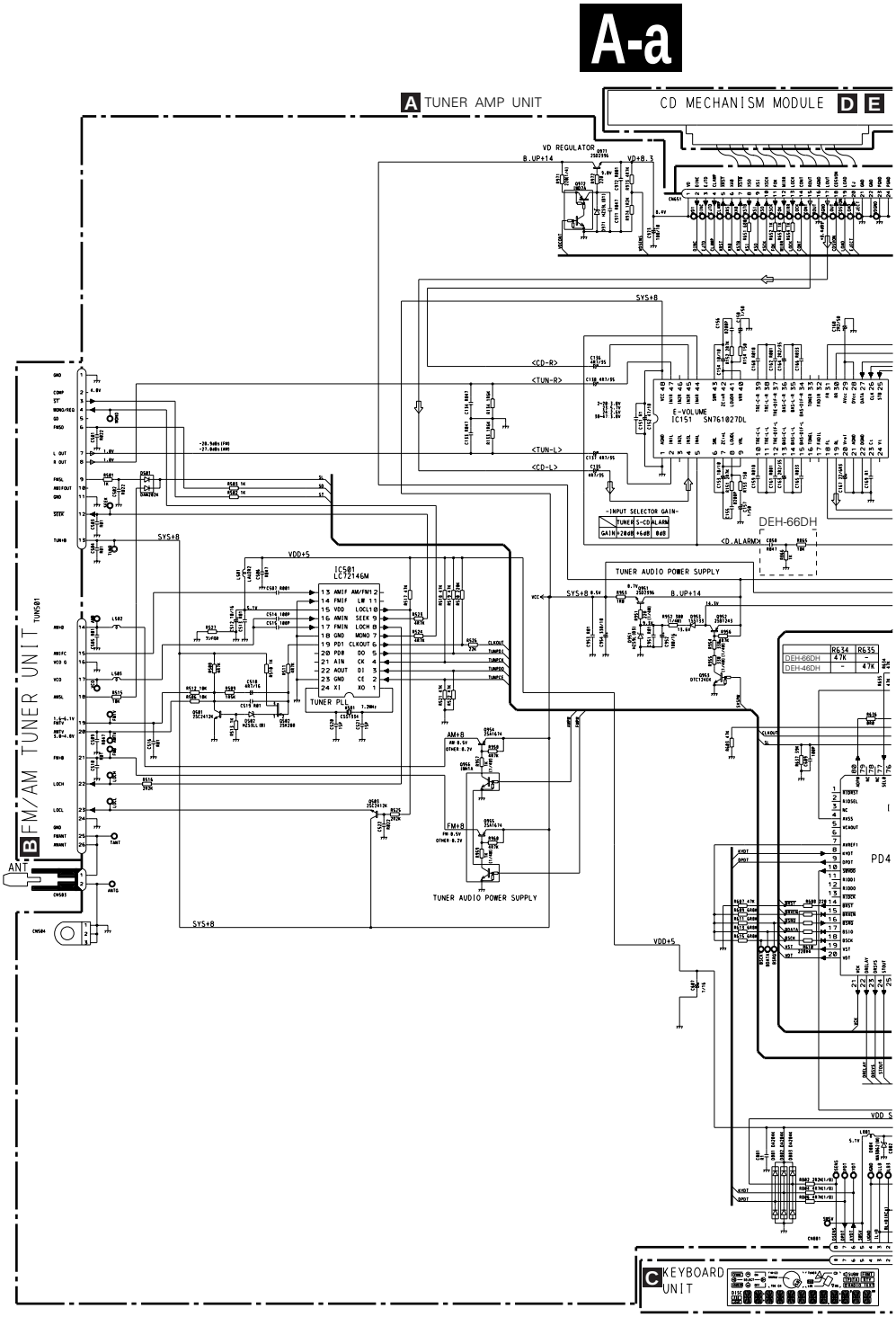
Mark	No.	Description	Part No.
	46	Connector(CN701)	CKS2774
	47	Connector(CN801)	CKS2196
	48	Spring	CBH1832
	49	Spring	CBH1833
	50	Roller	CLA2627
	51	Arm	CNV4136
	52	Arm Unit	CXA8565
	53	Bracket	CNC6056
	54	Load Motor Unit(S7)(M3)	CXA8702
	55	Screw	JFZ20P025FMC
	56	Arm	CNV4120
	57	Roller	CNV4509
	58	Gear Unit(S7)	CXA8701
	59	Screw	CBA1455
	60	Frame	CNC5797
	61	Damper	CNV3974
	62	Spring	CBH1736
	63	Spring	CBH1863
	64	Spring	CBH1945
	65	Spring	CBL1326
	66	Arm	CNC8364
	67	Lever	CNC6054
	68	Spacer	CNM3315
	69	Sheet	CNM4849
	70	Arm	CNV5031
	71	Arm	CNV4123
	72	Arm	CNV4124
	73	Arm	CNV4125
	74	Arm	CNV4138
	75	Arm	CNV5032
	76	Clamper	CNV5308
	77	Screw	CBA1250
	78	Connector(CN1)	CDE4576
	79	Arm	CNC7383
*	80	Gathering PCB	CNX2445
	81	Photo-transistor(Q1, 2)	CPT-230S-X
	82	Elbow Arm Assy(S7)	CXA8889
	83	Load Motor Assy(S7)	CXA8891
	84	LO Arm Assy(S7)	CXA8892
	85	Shaft	CLA3133
	86	Guide Arm Assy(S7)	CXB1850
	87	Ball	CNR1189

3. SCHEMATIC DIAGRAM

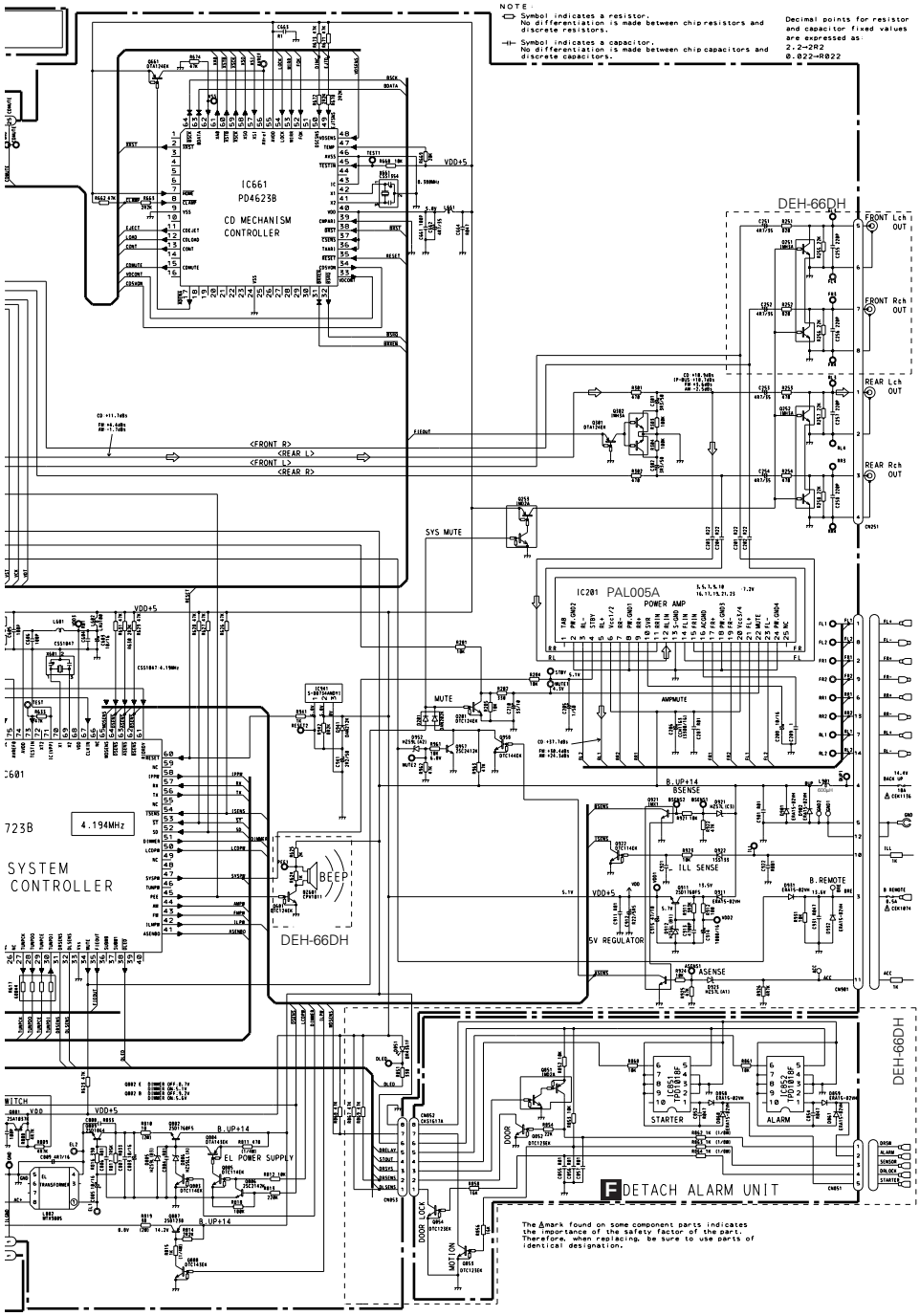
3.1 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

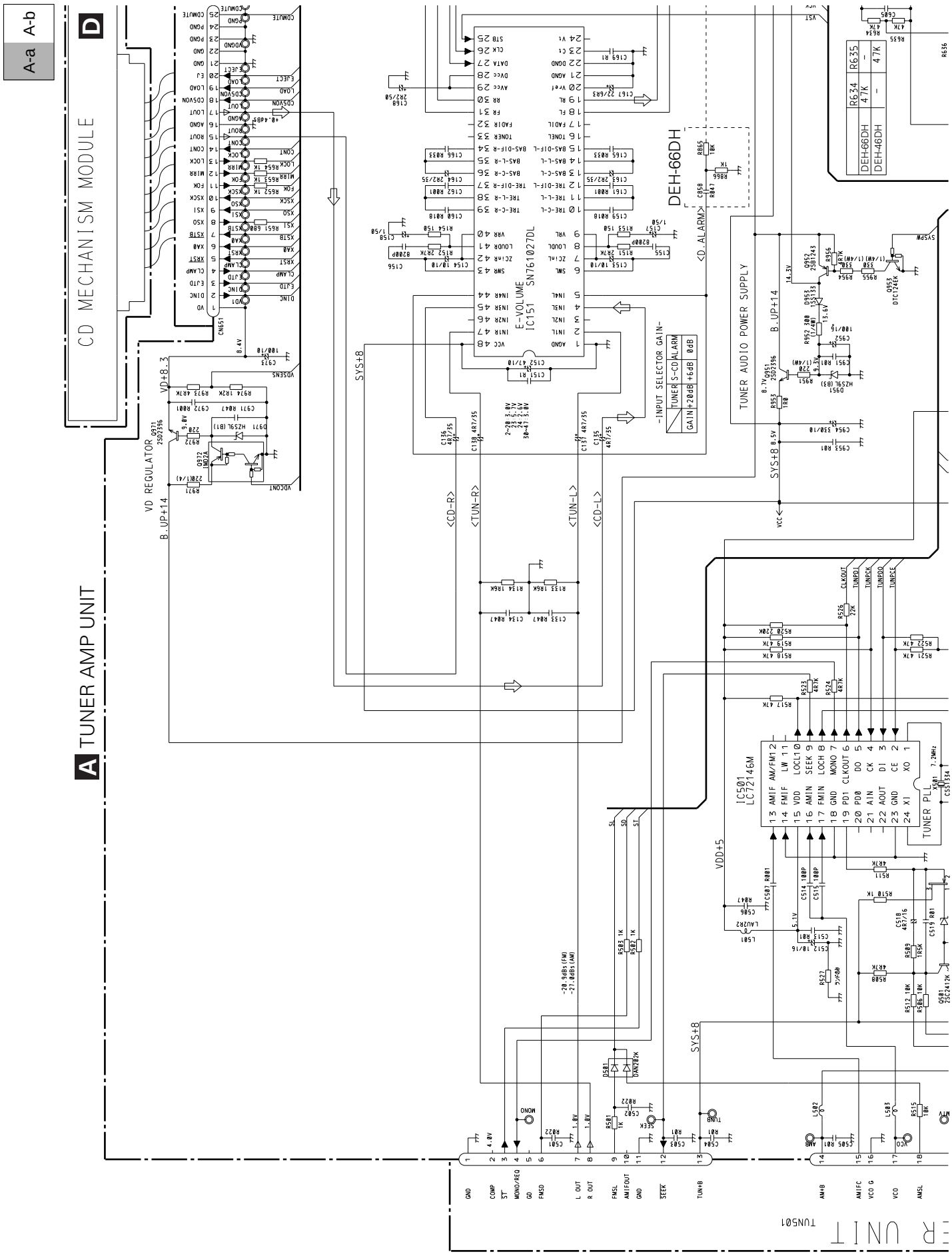
Note: When ordering service parts, be sure to refer to “EXPLODED VIEWS AND PARTS LIST” or “ELECTRICAL PARTS LIST”.





A-b


NOTE
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.
Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022
IC661
PD4623B
CD MECHANISM CONTROLLER
DEH-66DH
FRONT Lch OUT
FRONT Rch OUT
REAR Lch OUT
REAR Rch OUT
<FRONT R>
<REAR L>
<FRONT L>
<REAR R>
SYS MUTE
IC201 PAL005A
POWER AMP
MUTE
AMPMUTE
B.UP+14
BSENSE
ILL SENSE
B.REMOTE
5V REGULATOR
ASENSE
4.194MHz
SYSTEM CONTROLLER
BEEP
DEH-66DH
VDD+5
EL POWER SUPPLY
B.UP+14
STARTER
ALARM
DOOR
DOOR LOCK MOTION
DEH-66DH
FDETACH ALARM UNIT
The Δmark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.


A-b
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D
CD MECHANISM MODULE
A TUNER AMP UNIT
DEH-66DH
TUNER AUDIO POWER SUPPLY
VD REGULATOR
E-VOLUME IC151 SN761027DL
IC501 LC72144M
TUNER PLL
<CD-R>
<TUN-R>
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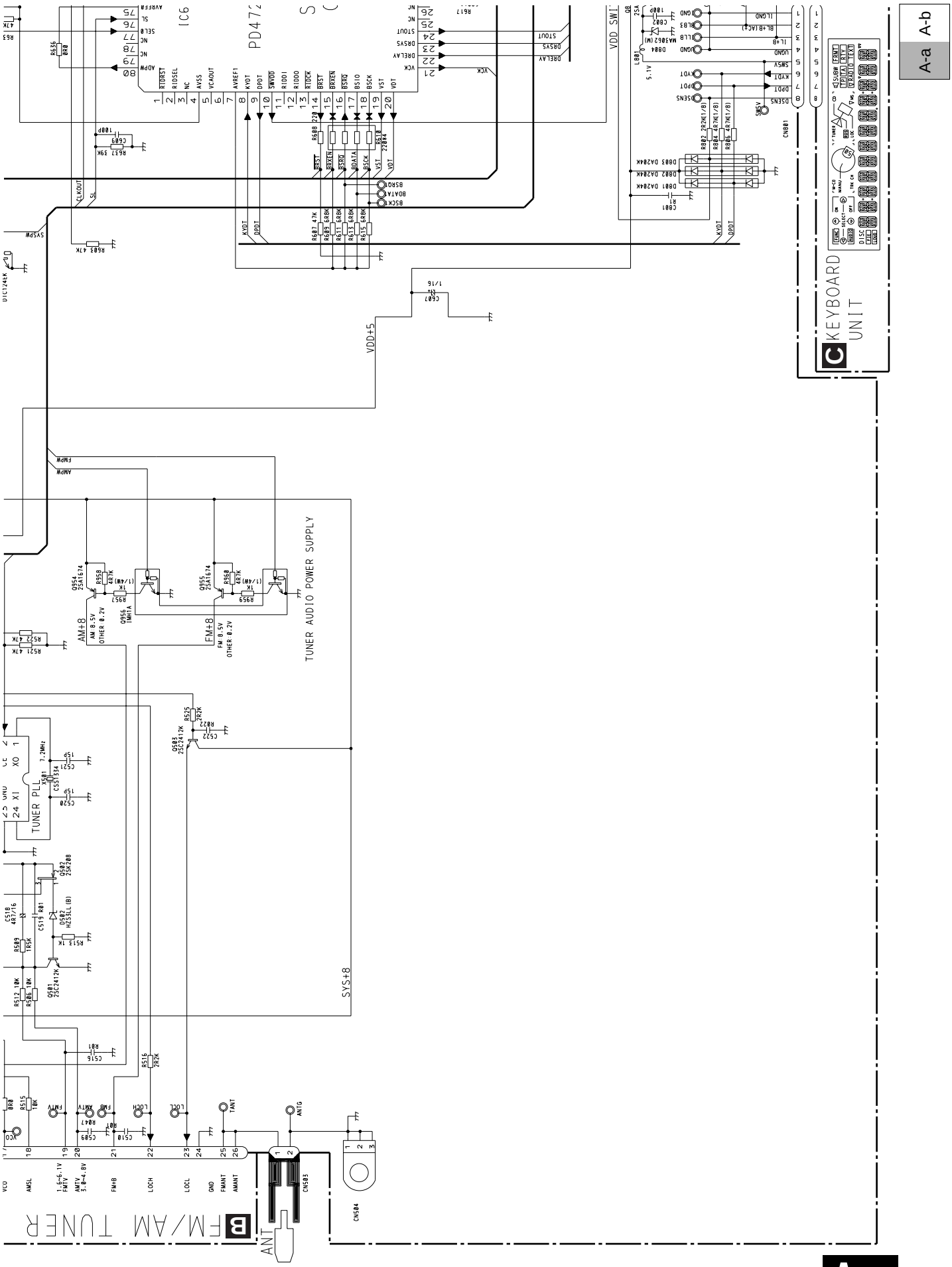
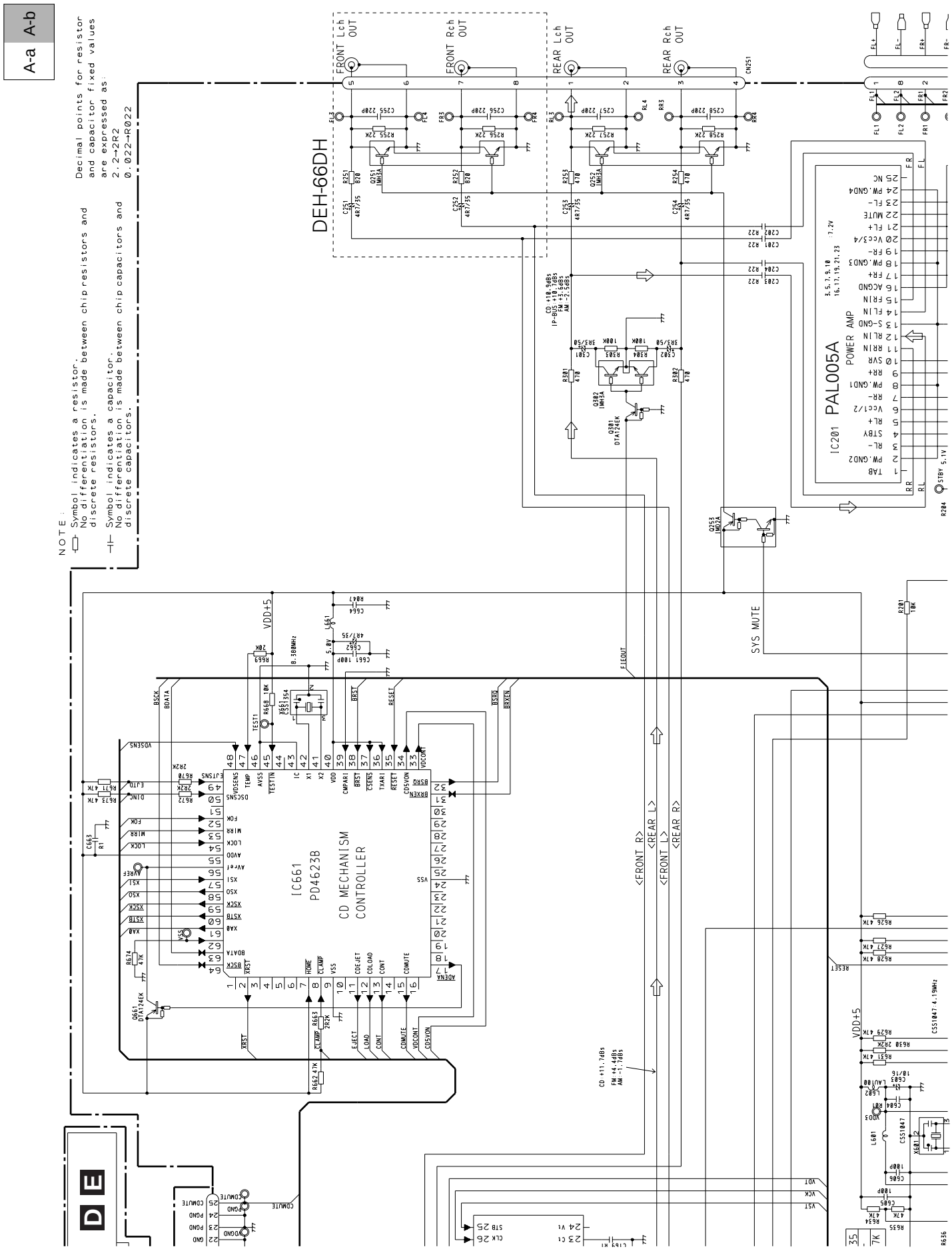
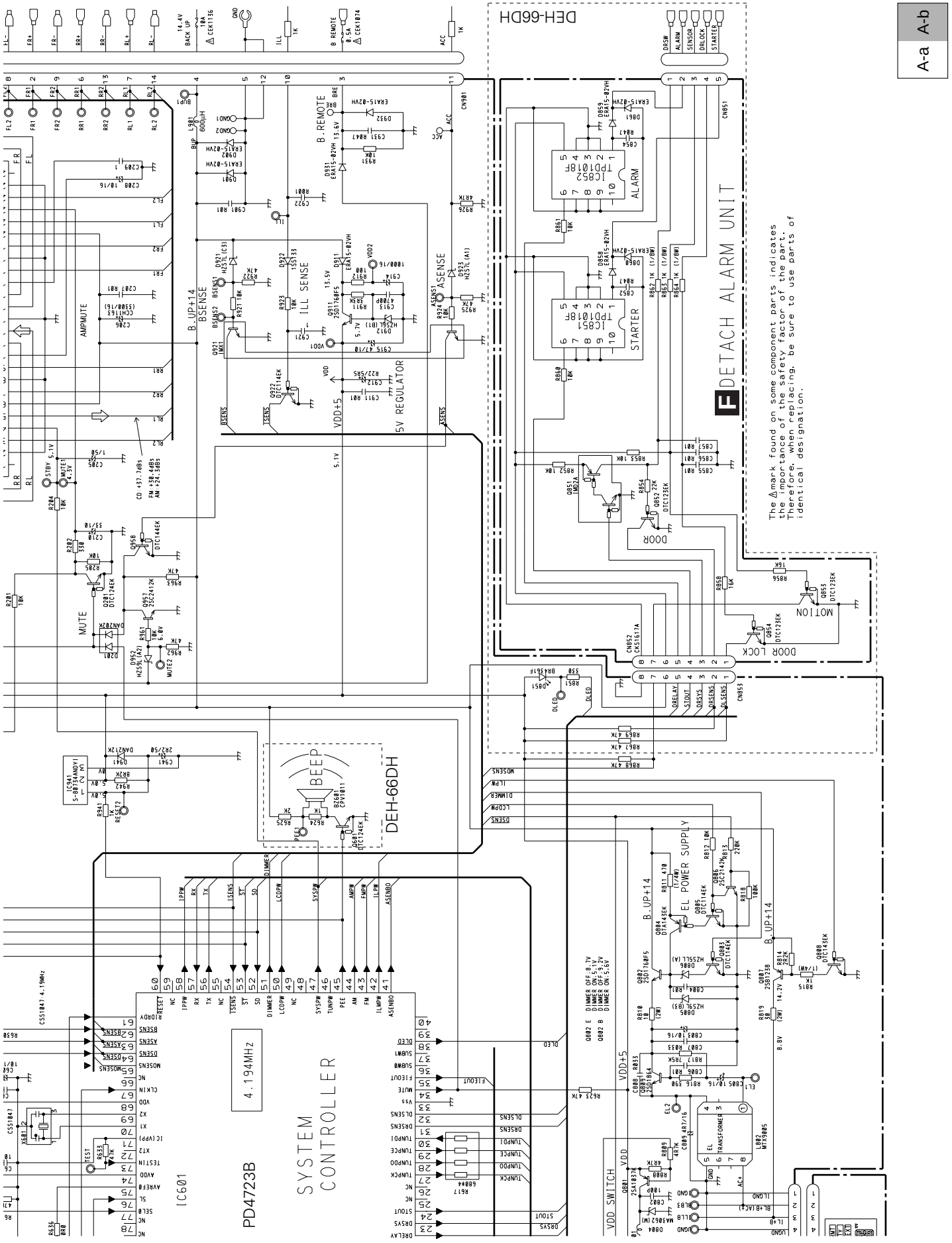
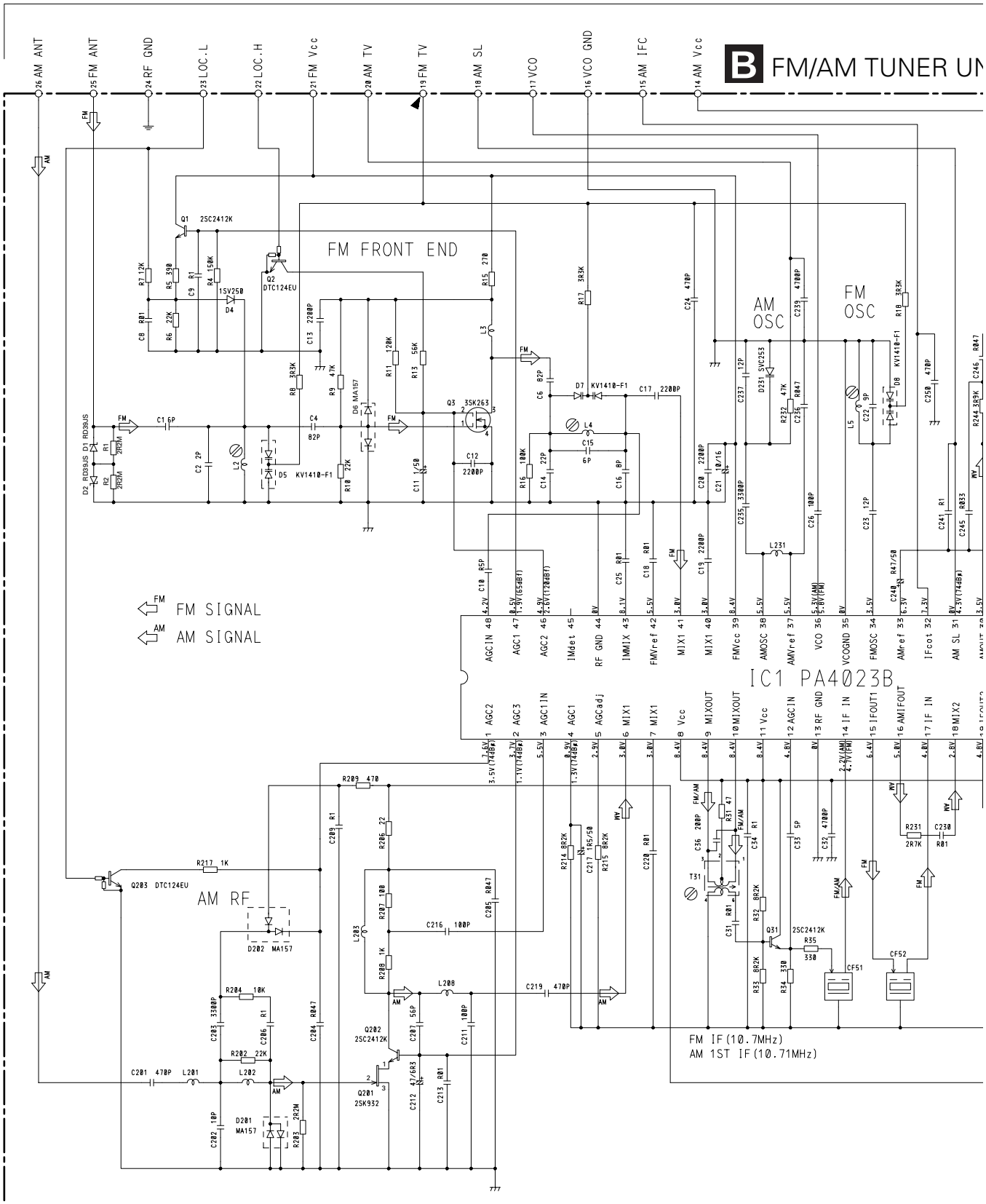
SYS+8
VDD+5
B.UP+14
VD+8.3
<D.ALARM>
-INPUT SELECTOR GAIN-
TUNER S-CD ALARM 0dB
GAIN +20dB +6dB 0dB
DEH-66DH R635 -
DEH-46DH R634 47K R635 47K
GND COMP ST MONO/REQ GD FMSD L OUT R OUT FMSL AMIFOUT GND SEEK TUN+B AM+B AMIFC VCO G VCO AMSL
TUN501
TUNER UNIT

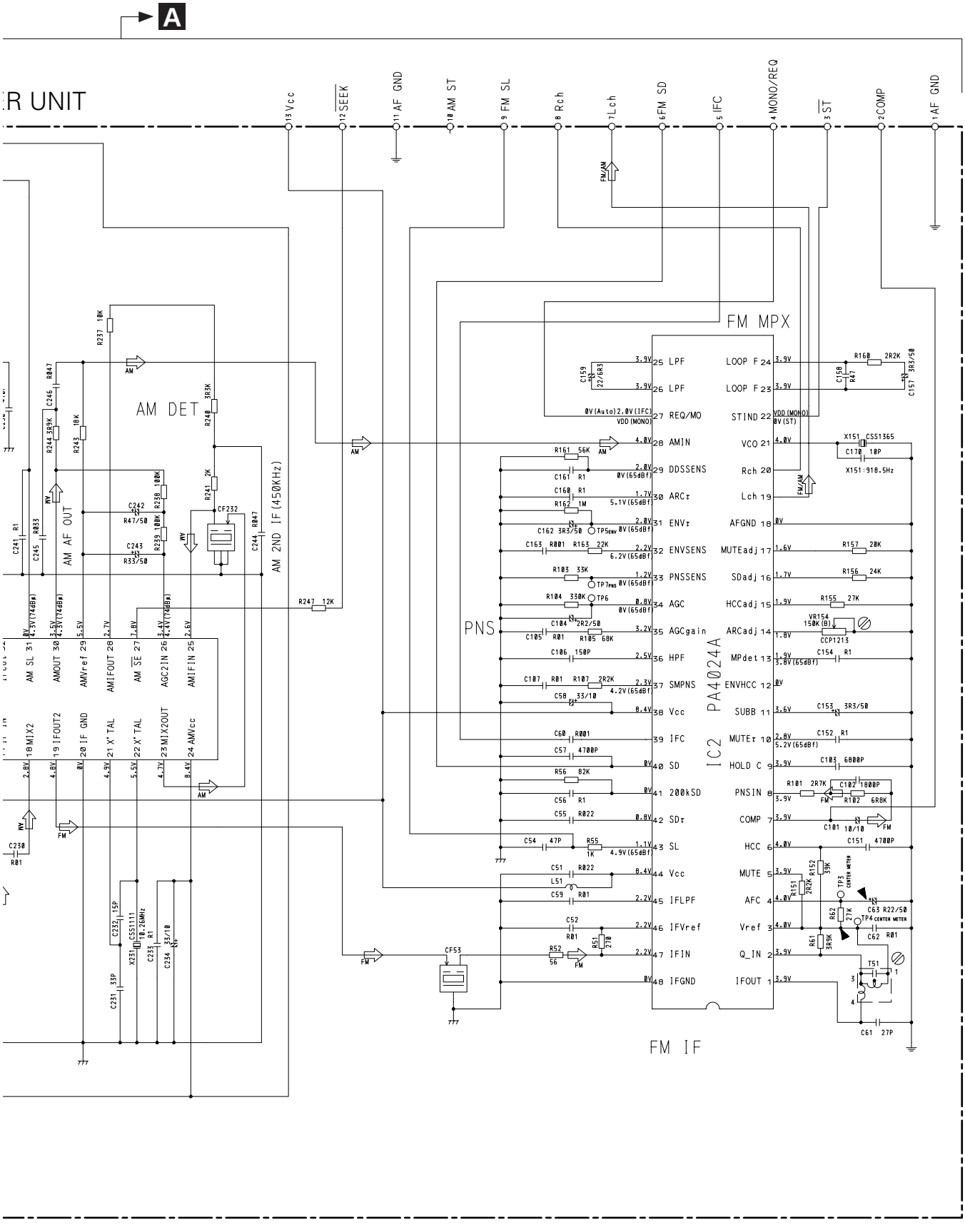

A-b
A-a
KEYBOARD UNIT
TUNER AUDIO POWER SUPPLY
TUNER PLL
FM/AM TUNER
ANT
SYS+8
VDD+5
AM+8
FM+8


A-a A-b
NOTE:
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.
Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022
DEH-66DH
FRONT Lch OUT
FRONT Rch OUT
REAR Lch OUT
REAR Rch OUT
CN251
IC201 PAL005A
POWER AMP
IC661 PD4623B
CD MECHANISM CONTROLLER
SYS MUTE
VDD+5
8.388MHz
<FRONT R>
<REAR L>
<FRONT L>
<REAR R>
D E

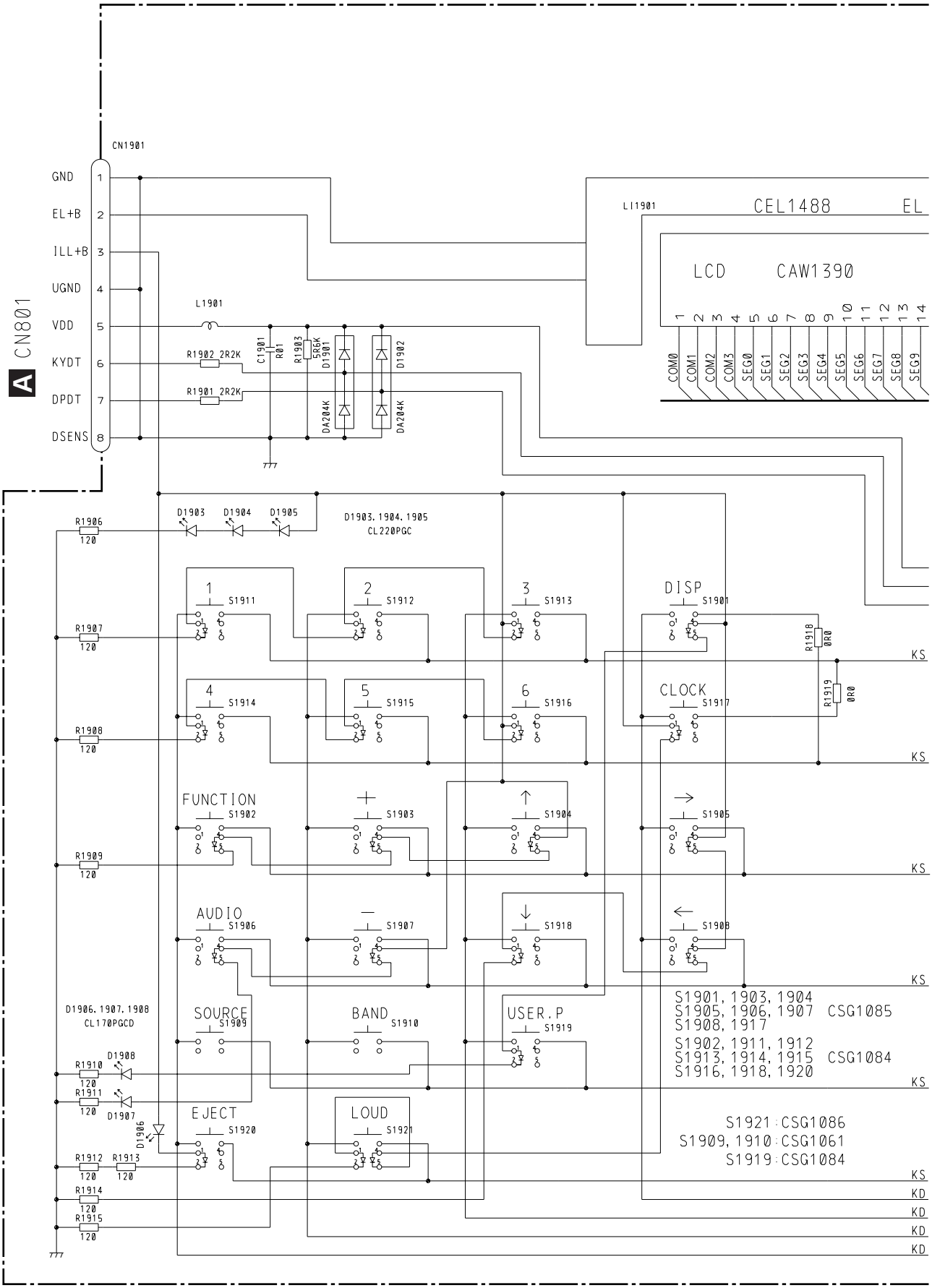

A-a A-b
DEH-66DH
DETACH ALARM UNIT
The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
SYSTEM CONTROLLER
PD4723B
4.194MHz
DEH-66DH
B.REMOTE
ILL SENSE
5V REGULATOR
MUTE
AMPMUTE
DOOR
MOTION
DOOR LOCK
EL POWER SUPPLY
VDD SWITCH
BEEP
A
B
C
D
A-b
17

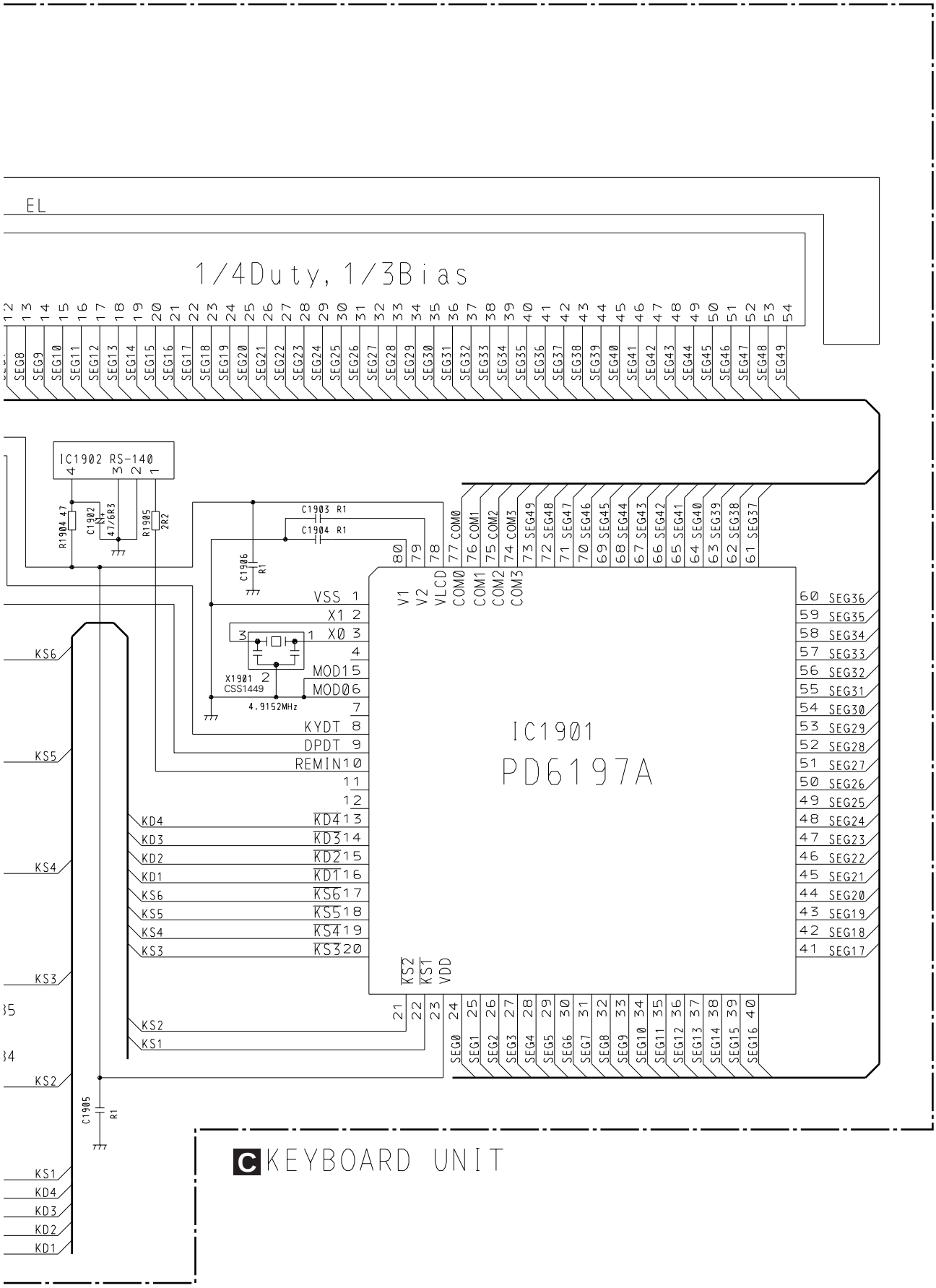
3.2 FM/AM TUNER UNIT



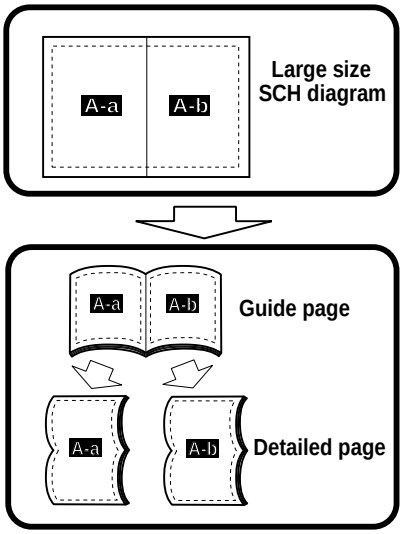

A
R UNIT
13 Vcc
12 SEEK
11 AF GND
10 AM ST
9 FM SL
8 Rch
7 Lch
6 FM SD
5 IFC
4 MONO/REQ
3 ST
2 COMP
1 AF GND
FM MPX
AM DET
AM AF OUT
AM 2ND IF (450KHz)
PNS
IC2 PA4024A
FM IF
25 LPF
26 LPF
27 REQ/MO
28 AMIN
29 DDSSENS
30 ARCr
31 ENVr
32 ENVSENS
33 PNSSENS
34 AGC
35 AGCgain
36 HPF
37 SMPNS
38 Vcc
39 IFC
40 SD
41 200kSD
42 SDr
43 SL
44 Vcc
45 IFLPF
46 IFVref
47 IFIN
48 IFGND
24 AMVcc
23 MIX2OUT
22 X'TAL
21 X'TAL
20 IF GND
19 IFOUT2
18 MIX2
17 MIX1
16 IFIN2
15 IFIN1
14 AGC1IN
13 AMIFOUT
12 AM SE
11 AMVref
10 AMOUT
9 AM SL
LOOP F 24
LOOP F 23
STIND 22
VCO 21
Rch 20
Lch 19
AFGND 18
MUTEadj 17
SDadj 16
HCCadj 15
ARCadj 14
MPdet 13
ENVHCC 12
SUBB 11
MUTEr 10
HOLD C 9
PNSIN 8
COMP 7
HCC 6
MUTE 5
AFC 4
Vref 3
Q_IN 2
IFOUT 1
X151:918.5Hz
CF232
CF53
T51
TP3 CENTER METER
TP4 CENTER METER
AM
FM
FM/AM

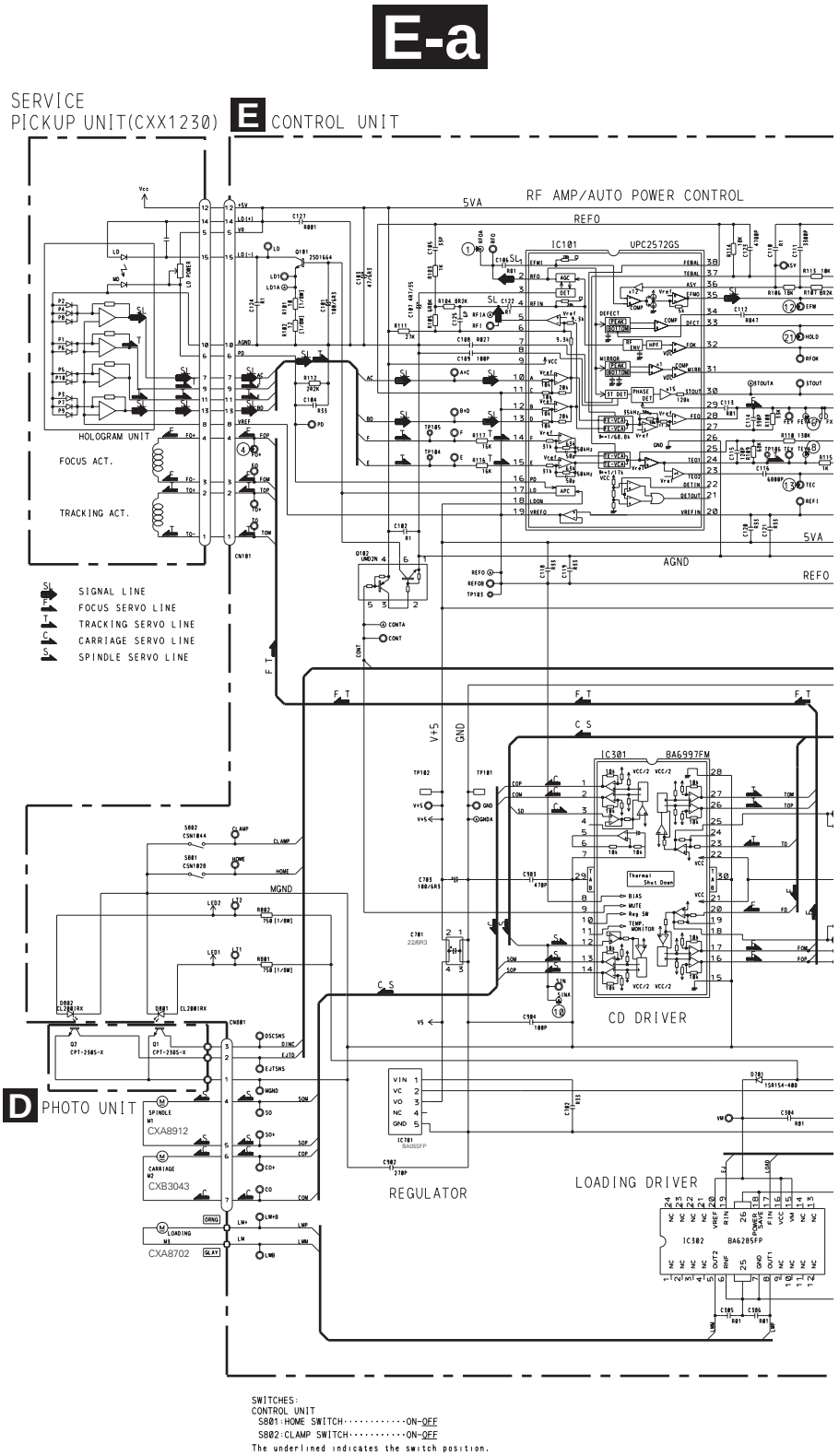
3.3 KEYBOARD UNIT




EL
1/4Duty, 1/3Bias
IC1902 RS-140
IC1901
PD6197A
X1901
CSS1449
4.9152MHz
KEYBOARD UNIT

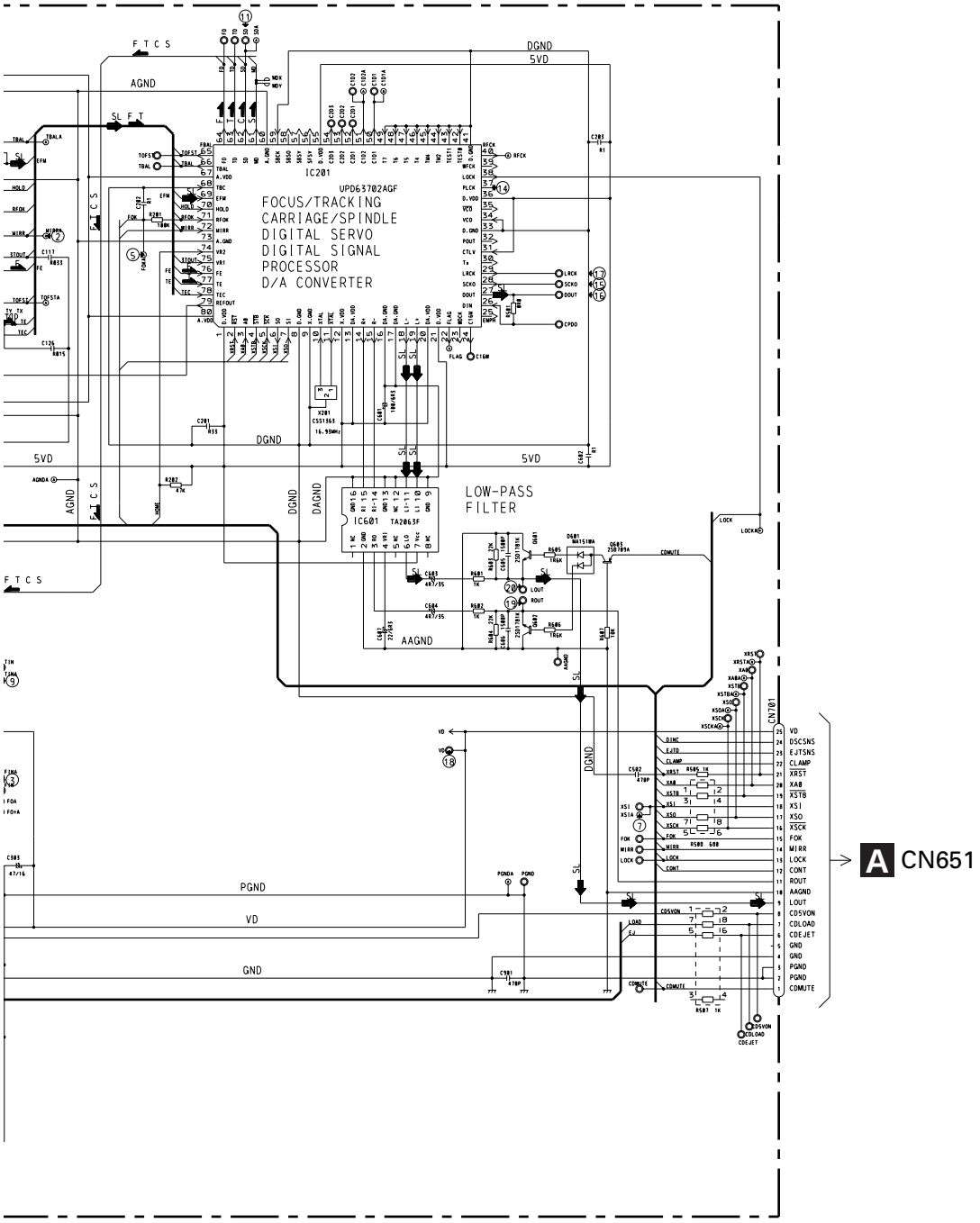
3.4 CD MECHANISM MODULE(GUIDE PAGE)

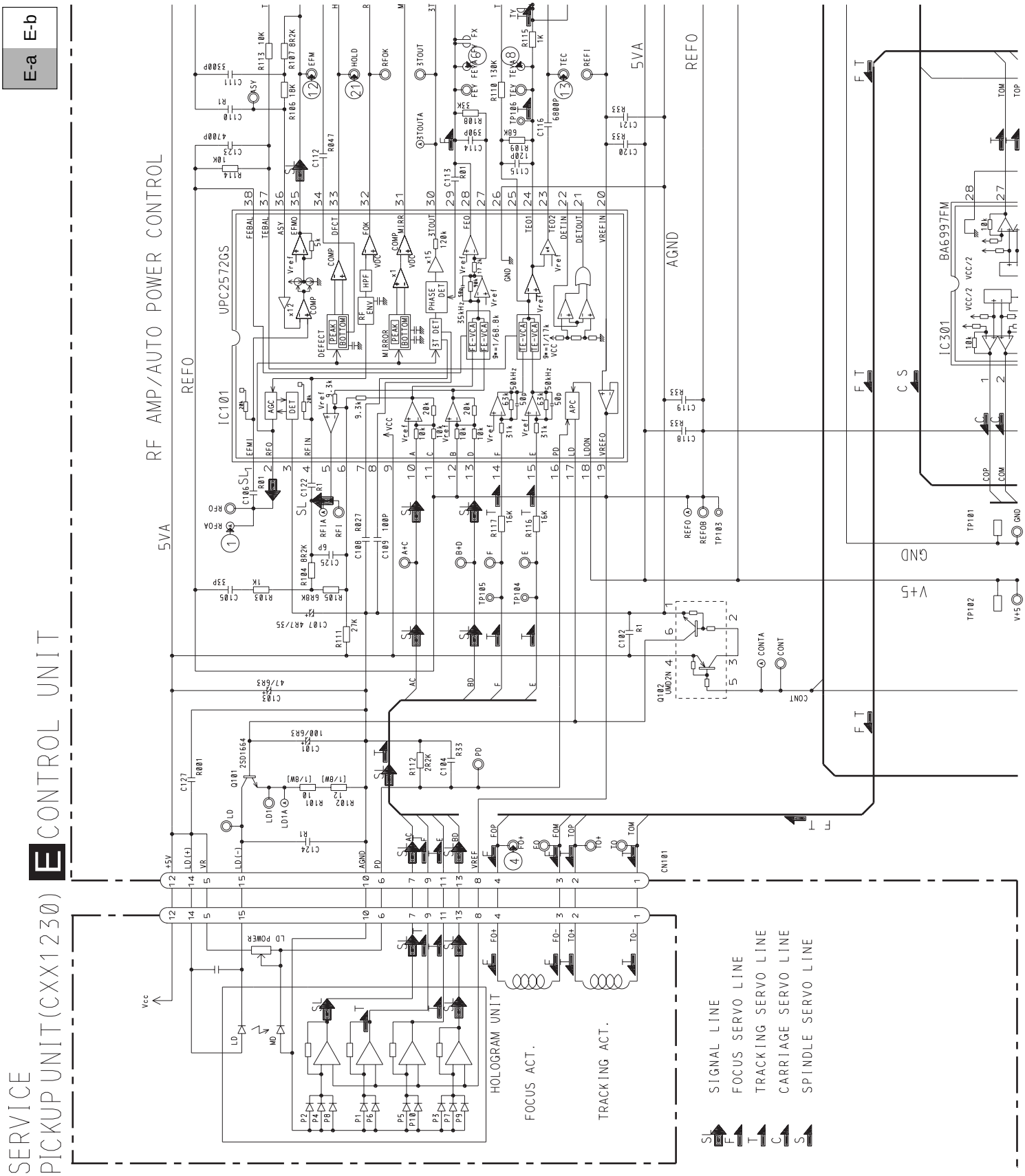


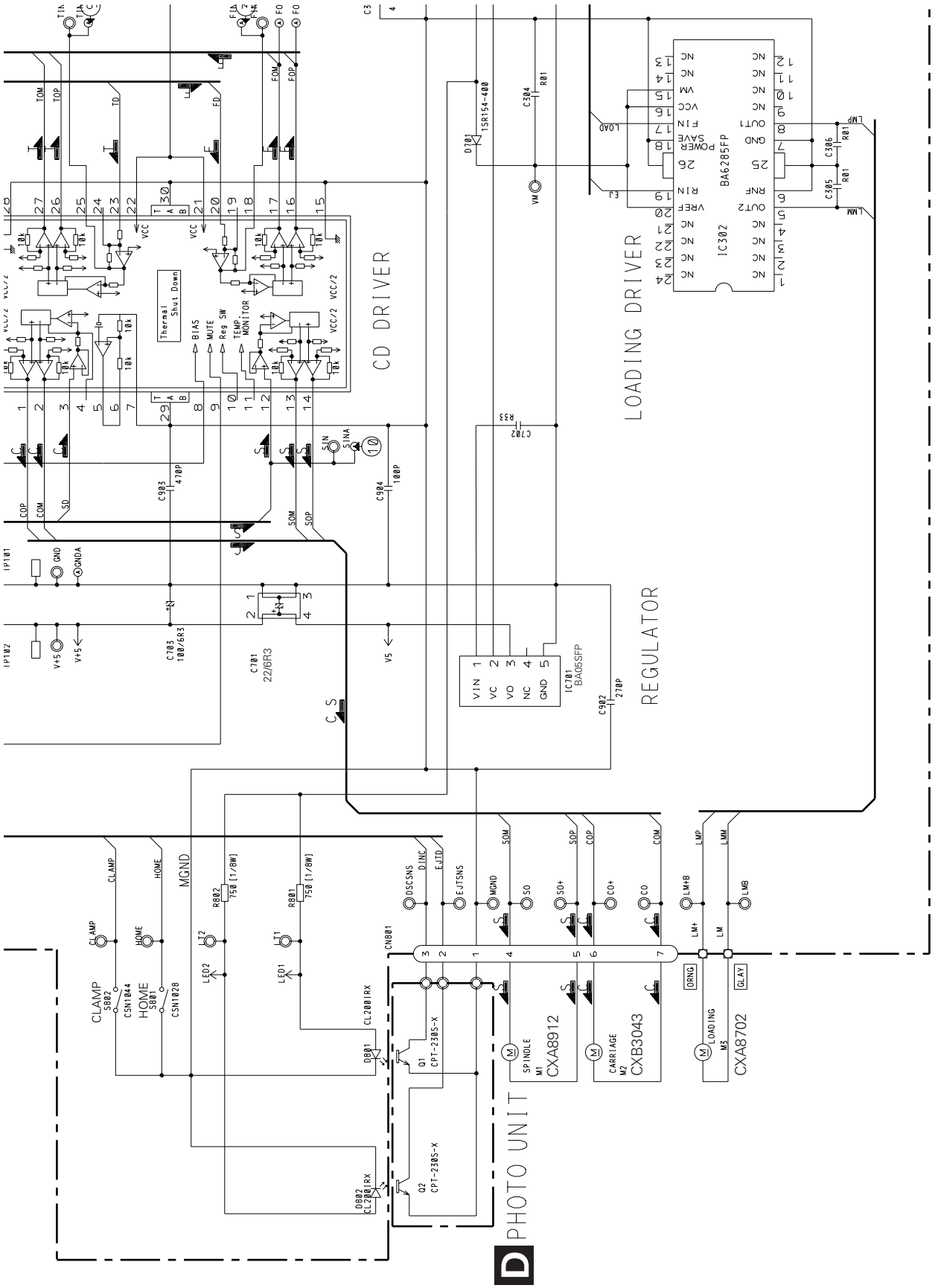


SWITCHES:
CONTROL UNIT
S801:HOME SWITCH·····ON-OFF
S802:CLAMP SWITCH·····ON-OFF
The underlined indicates the switch position.

E-b

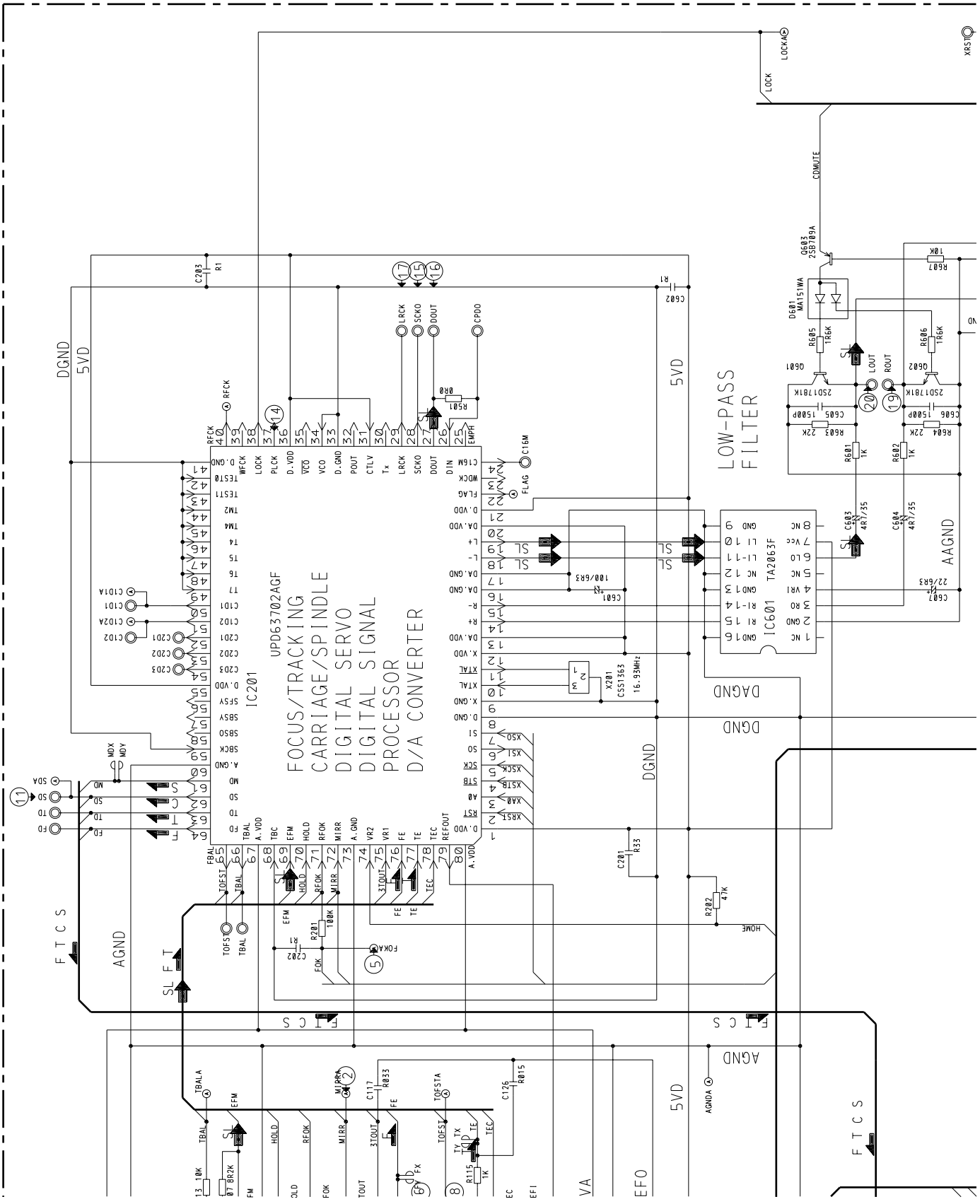

FTCS
AGND
DGND
5VD
SLFT
IC201
UPD63702AGF
FOCUS/TRACKING
CARRIAGE/SPINDLE
DIGITAL SERVO
DIGITAL SIGNAL
PROCESSOR
D/A CONVERTER
LOW-PASS
FILTER
IC601 TA2065F
AAGND
DAGND
LOCK
COMUTE
LOUT
ROUT
CN701
A CN651
PGND
VD
GND

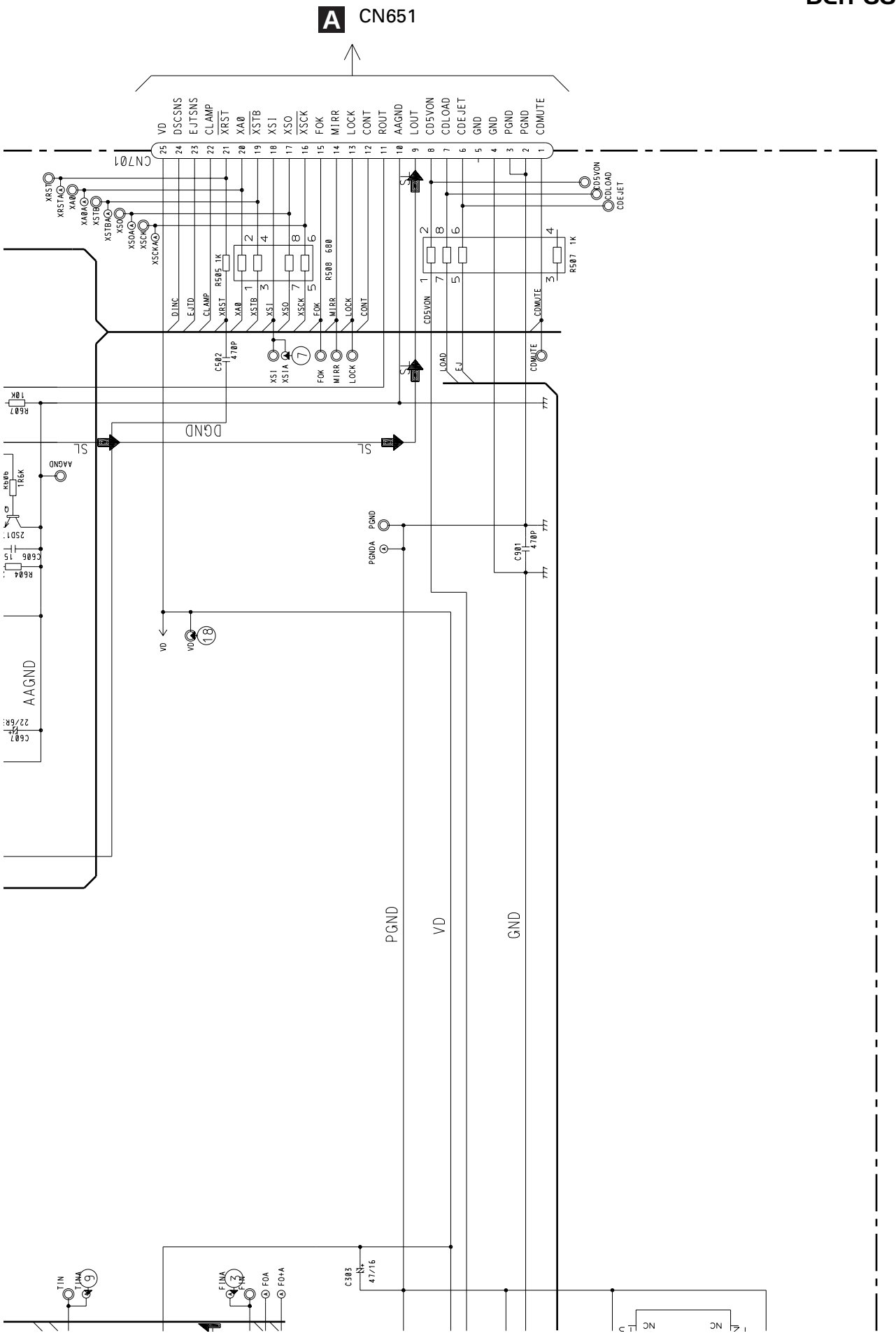

E-a E-b
E CONTROL UNIT
SERVICE
PICKUP UNIT(CXX1230)
RF AMP/AUTO POWER CONTROL
IC101
UPC2572GS
IC301
BA6997FM
HOLOGRAM UNIT
FOCUS ACT.
TRACKING ACT.
SIGNAL LINE
FOCUS SERVO LINE
TRACKING SERVO LINE
CARRIAGE SERVO LINE
SPINDLE SERVO LINE
5VA
REFO
AGND
GND
V+5
CONT
CONTA
CN101
Q101 2SD1664
Q102 UMD2N
LD
MD


CD DRIVER
LOADING DRIVER
REGULATOR
PHOTO UNIT
IC302
BA6285FP
IC701
BA05SFP
CXA8912
CXB3043
CXA8702
SPINDLE
CARRIAGE
LOADING
CLAMP
HOME
MGND
Thermal Shut Down
BIAS
MUTE
Reg SW
TEMP. MONITOR
VCC/2
SWITCHES:
CONTROL UNIT
S801:HOME SWITCH·····ON-OFF
S802:CLAMP SWITCH·····ON-OFF
The underlined indicates the switch position.

E-a E-b

E-a E-b

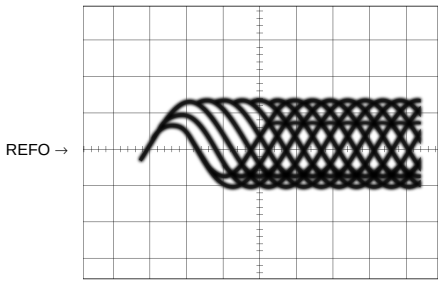

IC201
UPD63702AGF
FOCUS/TRACKING
CARRIAGE/SPINDLE
DIGITAL SERVO
DIGITAL SIGNAL
PROCESSOR
D/A CONVERTER
IC601
TA2063F
LOW-PASS
FILTER
DGND
5VD
AGND
DAGND
AAGND
LOCK
CDMUTE
XRST
LRCK
SCKO
DOUT
CPDO
RFCK
C16M
FLAG
LOUT
ROUT
X201
CSS1363
16.93MHz
SLFT
FTCS
HOME
TBALA
MIRRA
TOFSTA
FOKA
EFM
TBAL
HOLD
RFOK
MIRR
3TOUT
FE
TE
TEC
TOFS
FOK
TX
EC
EFI
VA
EFO
AGNDA


A
CN651
CN701
VD
DSCSNS
EJTSNS
CLAMP
XRST
XA0
XSTB
XSI
XSO
XSCK
FOK
MIRR
LOCK
CONT
ROUT
AAGND
LOUT
CD5VON
CDLOAD
CDEJET
GND
PGND
COMUTE
DINC
EJTD
R505 1K
R508 680
R507 1K
C502 470P
C901 470P
C303 47/16
DGND
SL
LOAD
EJ
PGND
VD
GND
AAGND
TIN
FIN
FOA
FO+A

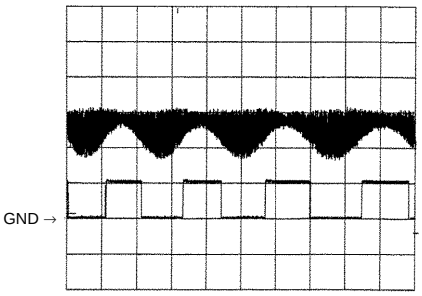
Note:1. The encircled numbers denote measuring pointes in the circuit diagram.
2. Reference voltage
REFO:2.5V

● Waveforms

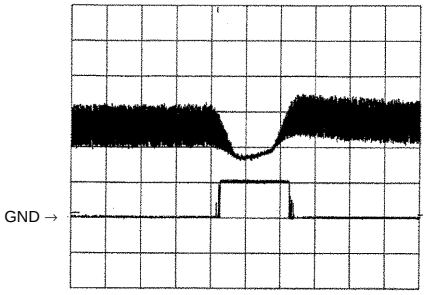
① RFO 0.5V/div. 0.5µs/div.
Normal mode: play



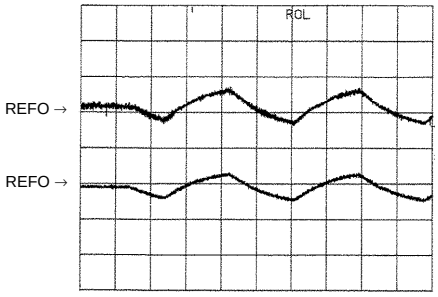
① CH1: RFO 1V/div. 0.5ms/div.
② CH2: MIRR 5V/div.
Test mode: Tracking open



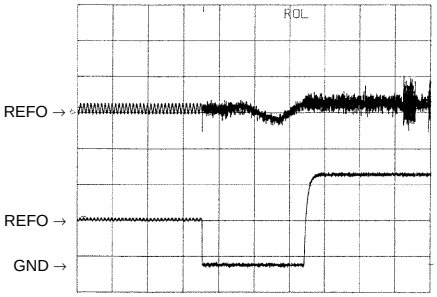
① CH1: RFO 1V/div. 0.5ms/div.
② CH2: MIRR 5V/div.
Normal mode: The defect part passes 800µm



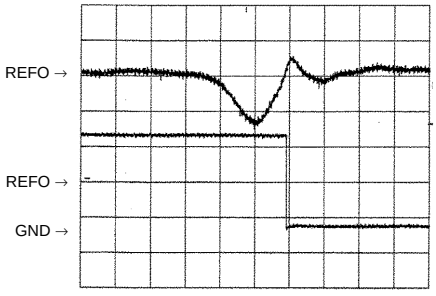
③ CH1: FIN 0.5V/div. 0.2s/div.
④ CH2: FO+ 2V/div.
Test mode: No disc, Focus close



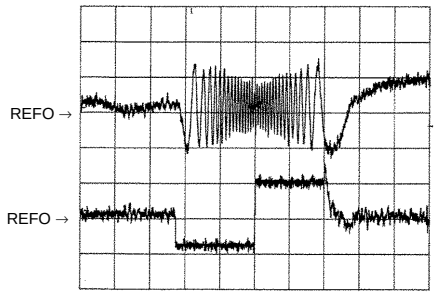
③ CH1: FIN 0.5V/div. 0.2s/div.
⑤ CH2: FOK 2V/div.
Normal mode: Focus close



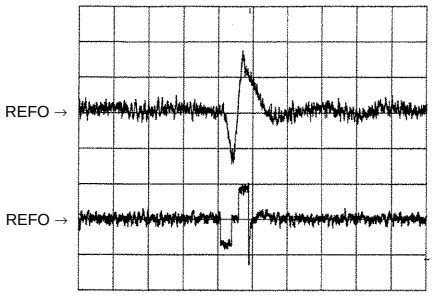
⑥ CH1: FEY 0.5V/div. 1ms/div.
⑦ CH2: XSI 2V/div.
Normal mode: Focus close



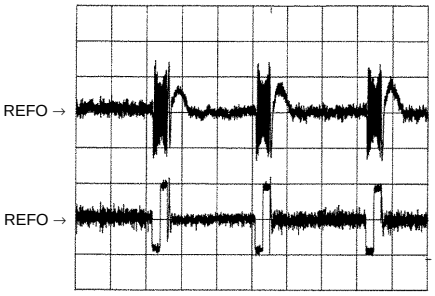
⑧ CH1: TEY 0.5V/div. 0.5ms/div.
⑨ CH2: TIN 0.5V/div.
Test mode: 32 tracks jump (FWD)



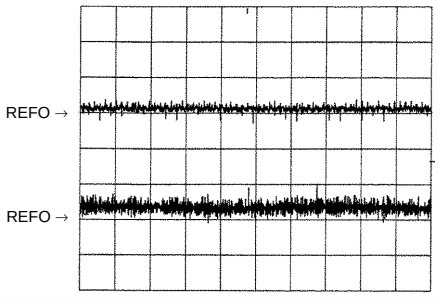
⑧ CH1: TEY 0.5V/div. 0.5ms/div.
⑨ CH2: TIN 0.5V/div.
Test mode: Single jump (FWD)



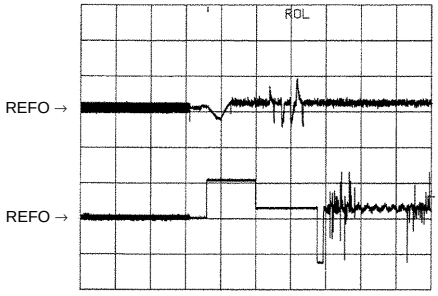
⑧ CH1: TEY 0.5V/div. 5ms/div.
⑨ CH2: TIN 0.5V/div.
Test mode: 100 tracks jump (FWD)



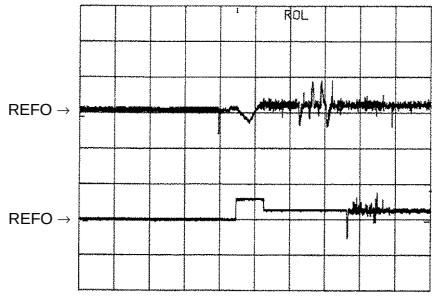
⑥ CH1: FEY 0.1V/div. 20ms/div.
③ CH2: FIN 0.2V/div.
Normal mode: Play



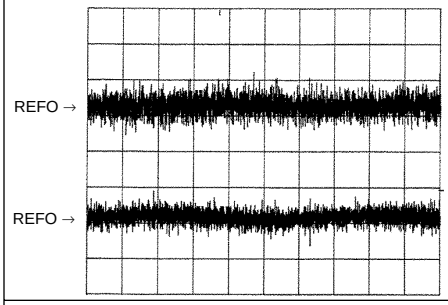
③ CH1: FIN 0.5V/div. 0.5s/div.
⑩ CH2: SIN 1V/div.
Normal mode: Focus close (12cm)



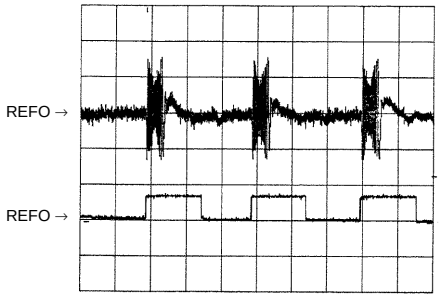
③ CH1: FIN 0.5V/div. 0.5s/div.
⑩ CH2: SIN 1V/div.
Normal mode: Focus close (8cm)



⑧ CH1: TEY 0.2V/div. 20ms/div.
⑨ CH2: TIN 0.2V/div.
Normal mode: play

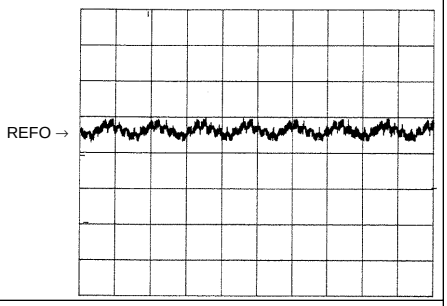


⑧ CH1: TEY 0.5V/div. 5ms/div.
⑪ CH2: SD 0.5V/div.



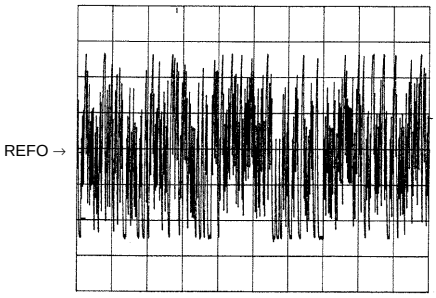
⑩ SIN 0.5V/div. 0.1s/div.

Normal mode: Play (12cm)



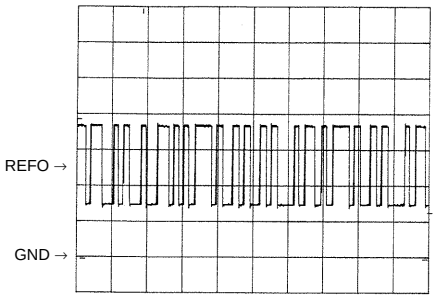
⑩ SIN 0.5V/div. 10ms/div.

Long Search (12cm)

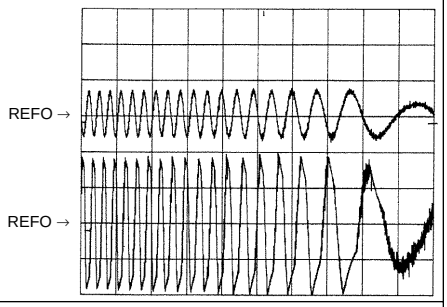


⑫ EFM 1V/div. 5µs/div.

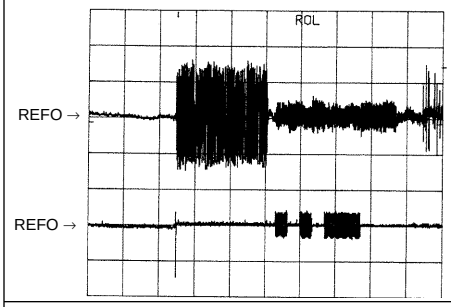
Play



⑧ CH1: TEY 1V/div. 2ms/div.
⑬ CH2: TEC 1V/div.
Test mode: Focus close
Tracking open

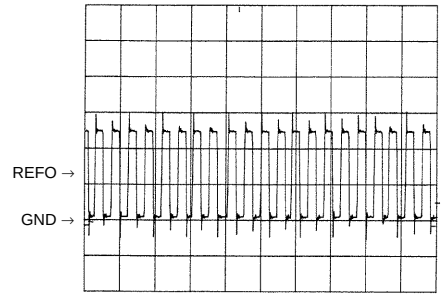


⑧ CH1: TEY 0.5V/div. 0.2s/div.
⑥ CH2: FEY 0.5V/div.
Normal mode: AGC after focus close



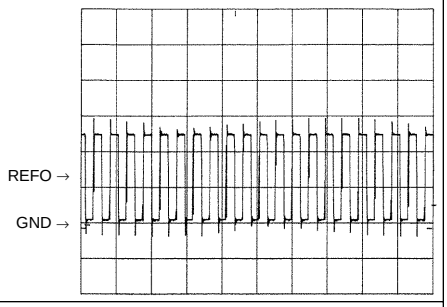
⑭ PLCK 2V/div. 0.5µs/div.

Play



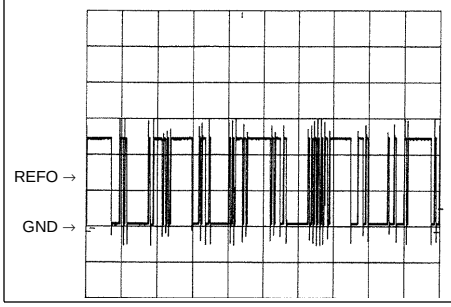
⑮ SCKO 2V/div. 1µs/div.

Play

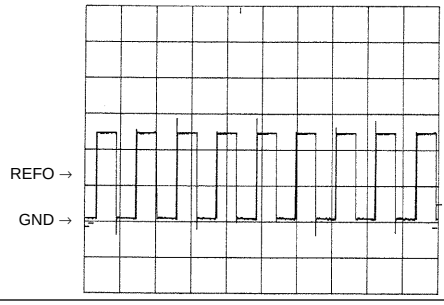


⑯ Dout 2V/div. 10µs/div.

Play

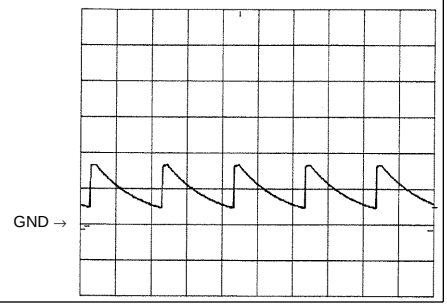


⑰ LRCK 2V/div. 20µs/div.

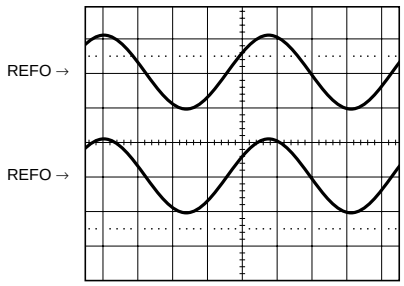


⑱ VD 5V/div. 50ms/div.

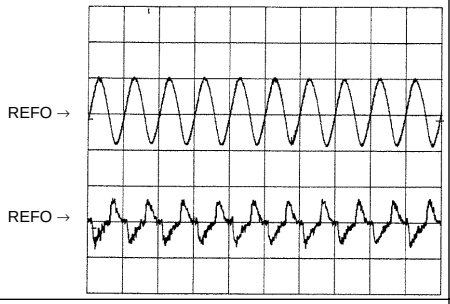
Normal mode: No disc



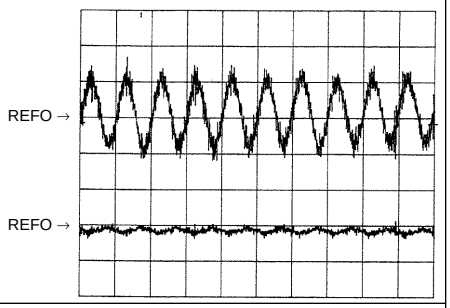
⑲ CH1: R OUT 1V/div.
⑳ CH2: L OUT 1V/div.
0.2ms/div.
Normal mode: Play (1kHz 0dB)



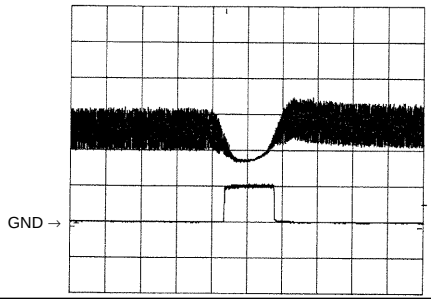
⑥ CH1: FEY 0.2V/div.
③ CH2: FIN 0.5V/div.
1ms/div.
Normal mode: During AGC



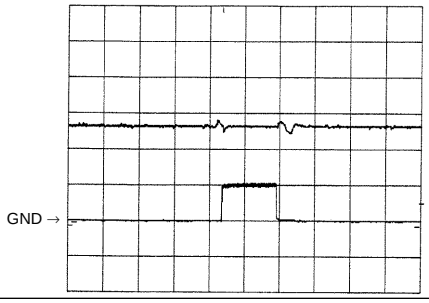
⑧ CH1: TEY 0.2V/div.
⑨ CH2: TIN 0.5V/div.
1ms/div.
Normal mode: During AGC



① CH1: RFO 1V/div.
㉑ CH2: HOLD 5V/div.
0.5ms/div.
Normal mode: The defect part passes 800µm



③ CH1: FIN 1V/div.
㉑ CH2: HOLD 5V/div.
0.5ms/div.
Normal mode: The defect part passes 800µm

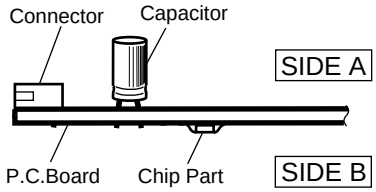


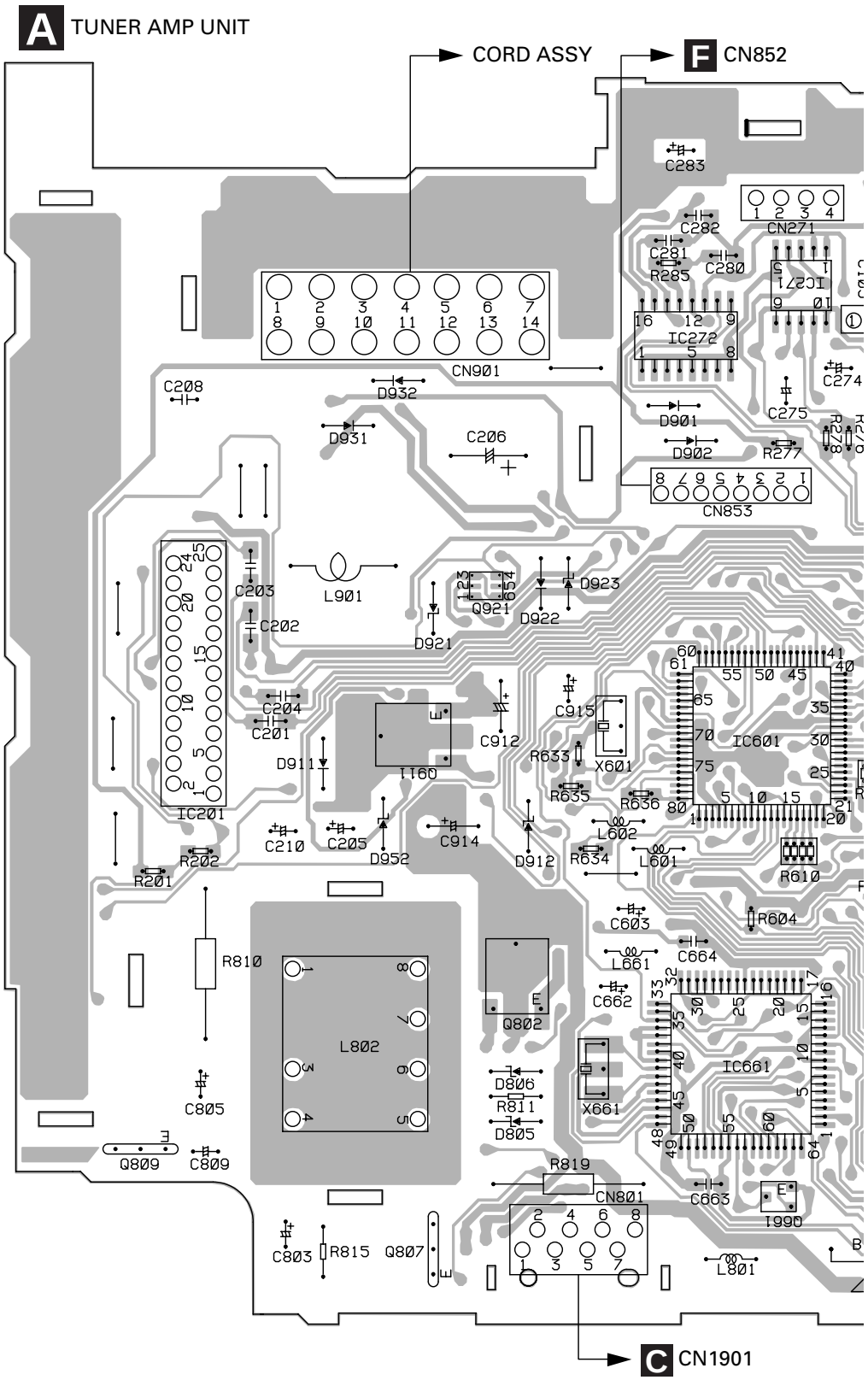
4. PCB CONNECTION DIAGRAM

4.1 TUNER AMP UNIT

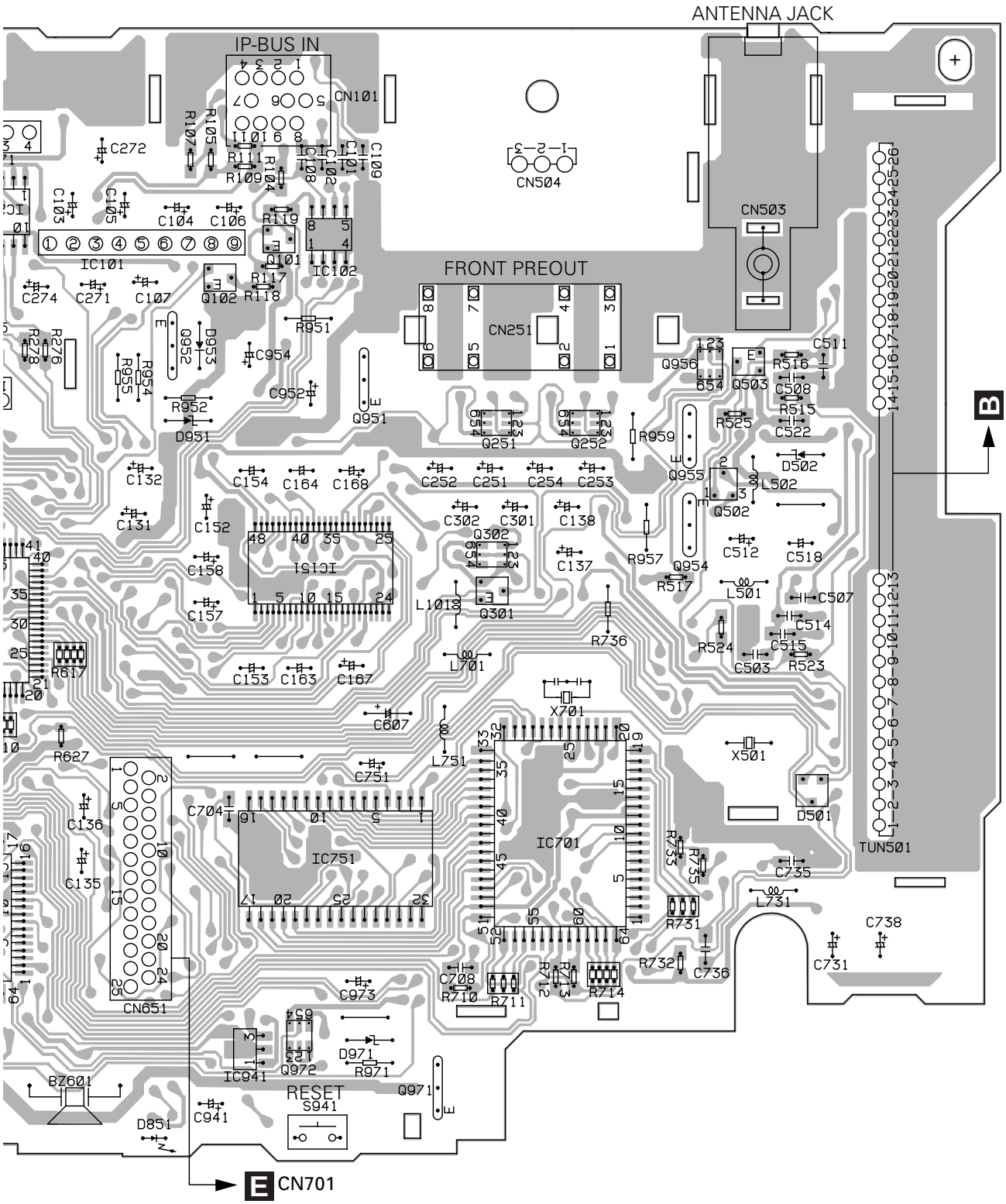
NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams





SIDE A



IC271

Q101 IC102
IC272 IC101

Q102

Q952
Q956
Q503

Q951

Q251 Q252
Q955

Q921 Q502

Q302
IC151 Q954

IC601 Q301

Q911

IC201

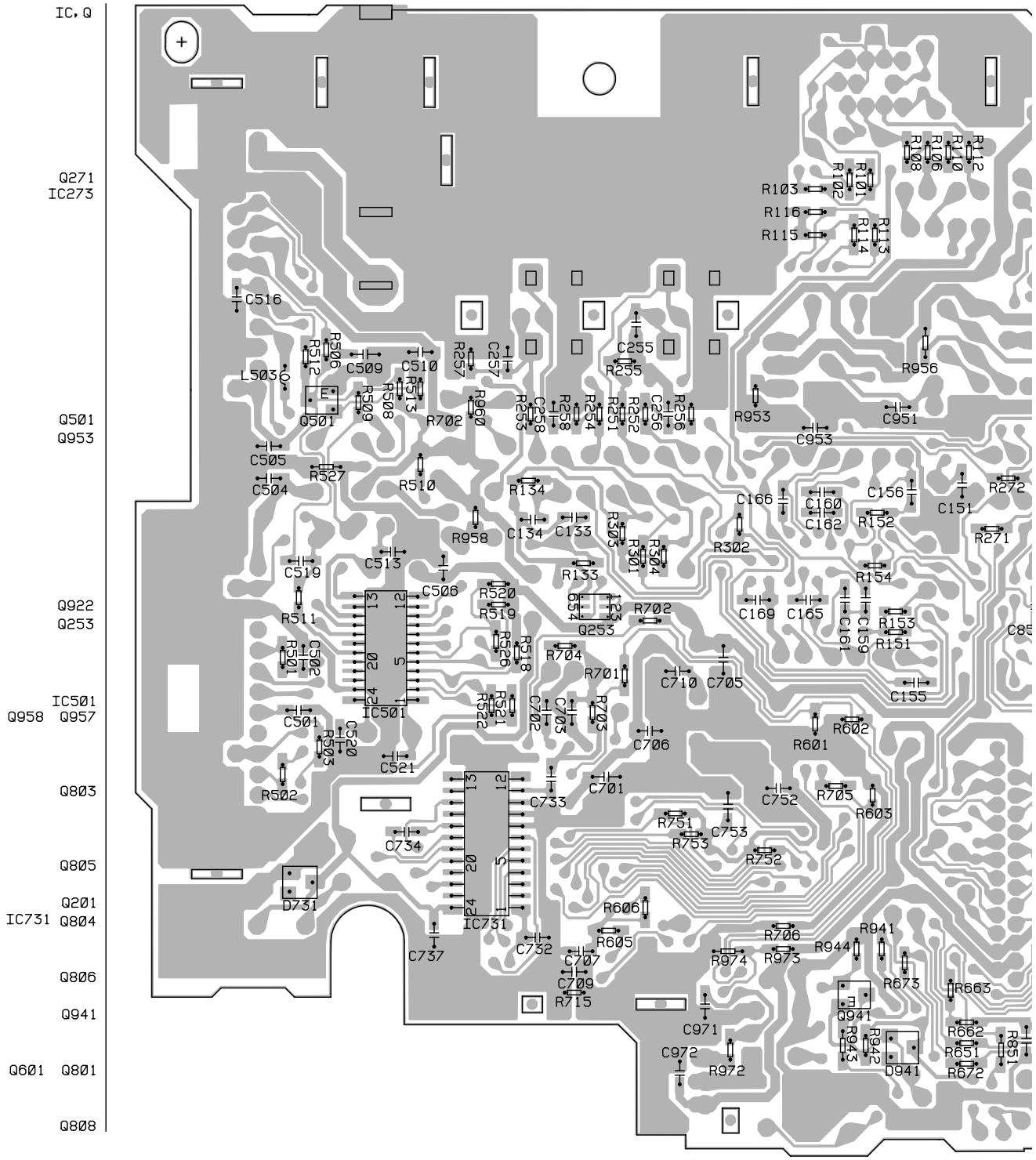
IC701
IC751
Q802

IC661

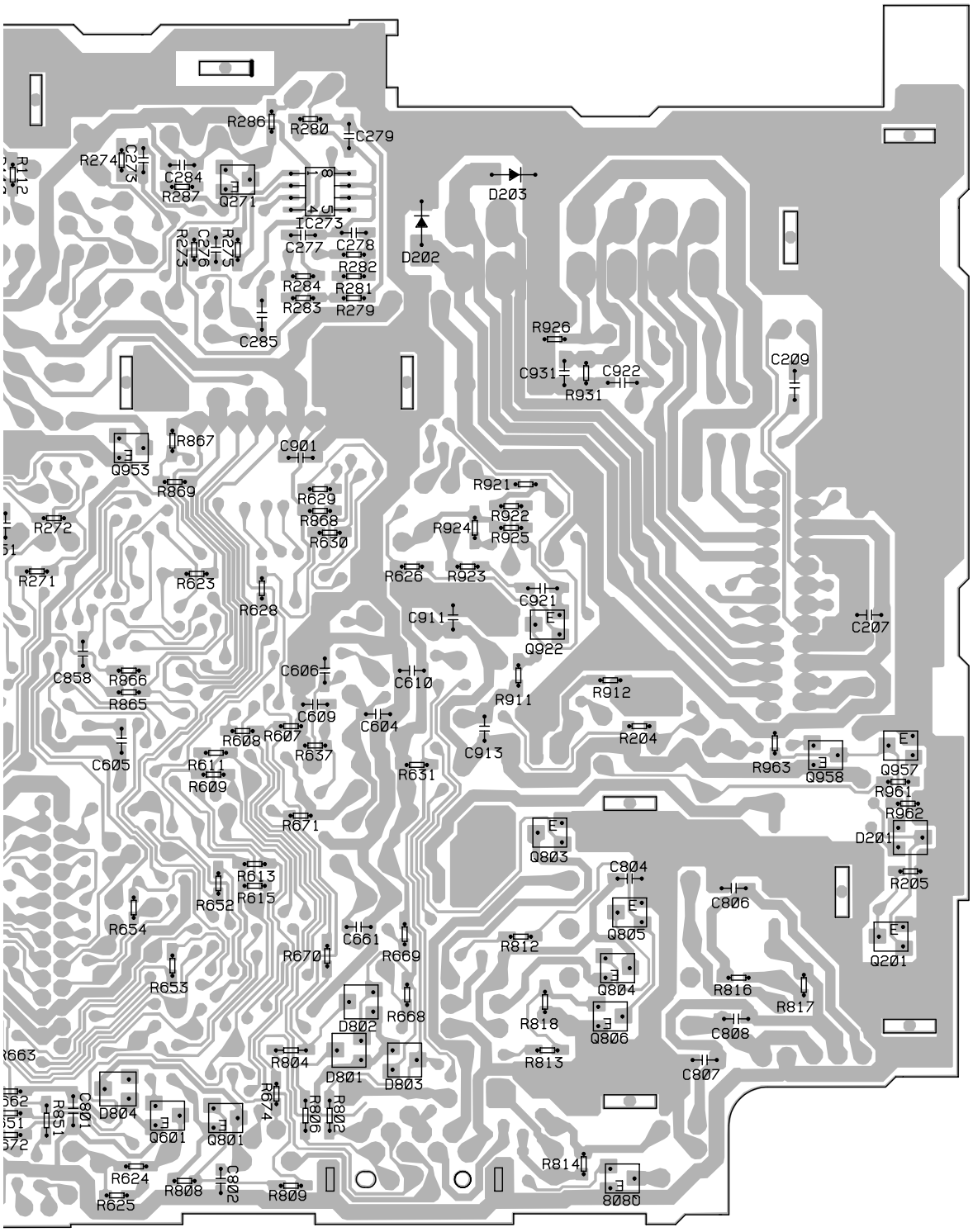
Q809

Q661
IC941 Q972
Q807 Q971

A TUNER AMP UNIT

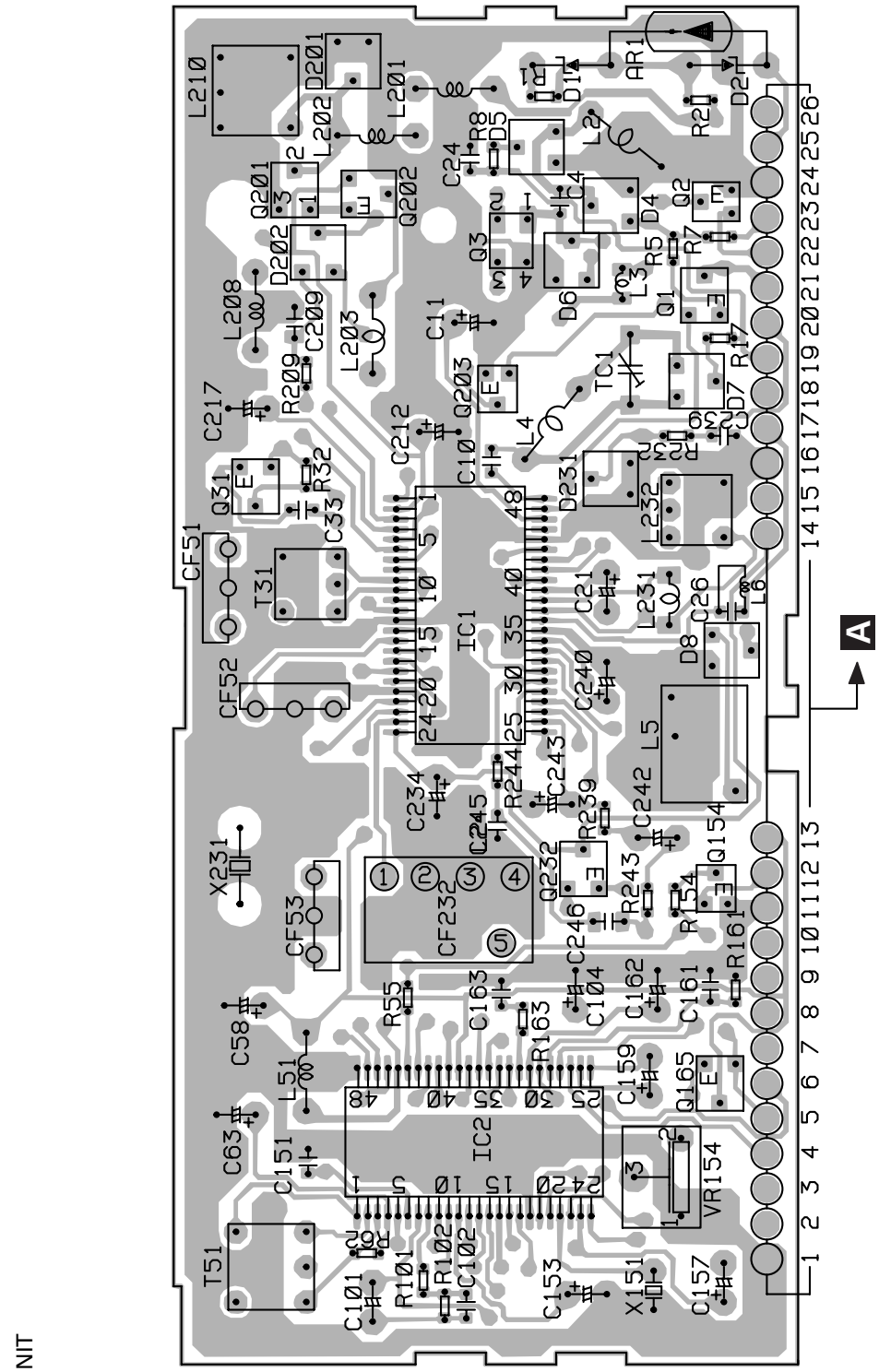


SIDE B


R286
R280
C279
R274
C273
C284
R287
Q271
IC273
C277
C278
R282
R284
R281
R283
R279
C285
D203
D202
R926
C931
C922
R931
C209
R867
C901
Q953
R869
R629
R868
R630
R921
R922
R924
R925
R272
R271
R623
R628
R626
R923
C921
Q922
C911
C207
C858
R866
R865
C606
C610
R911
R912
C609
C604
C913
R204
C605
R608
R607
R637
R611
R609
R631
R963
Q958
Q957
R961
R962
D201
R671
Q803
C804
R205
R613
R615
R652
C806
R654
C661
R669
R812
Q805
Q201
R670
R653
Q804
R816
R817
R668
D802
R818
Q806
C808
R804
D801
D803
R813
C807
D804
Q601
Q801
R814
R624
R625
R808
R809
8080
D

4.2 FM/AM TUNER UNIT

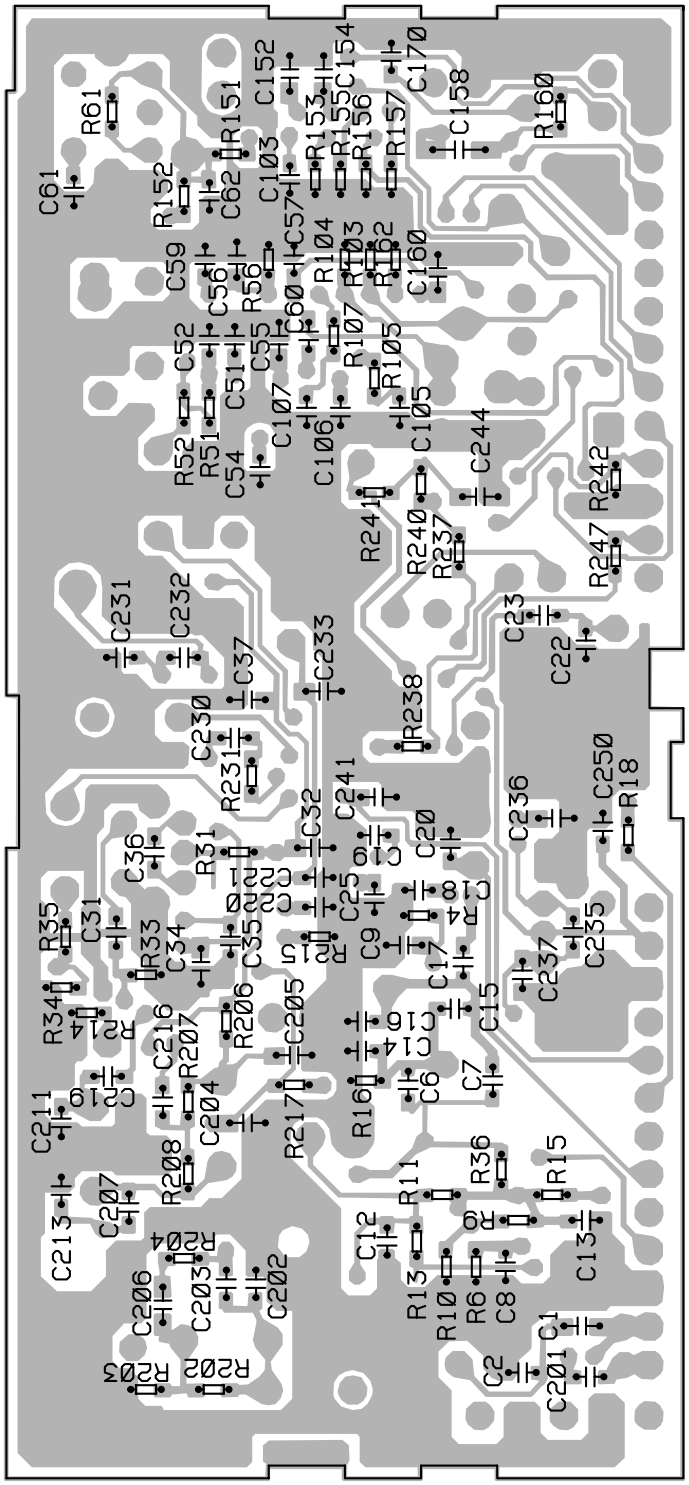
SIDE A



B FM/AM TUNER UNIT

IC, Q	ADJ
Q31 Q201	T51 T31
Q202	L4
Q203 Q3 IC2 IC1 Q232	L2 TC1
Q1 Q165 Q2 Q154	L5 VR154

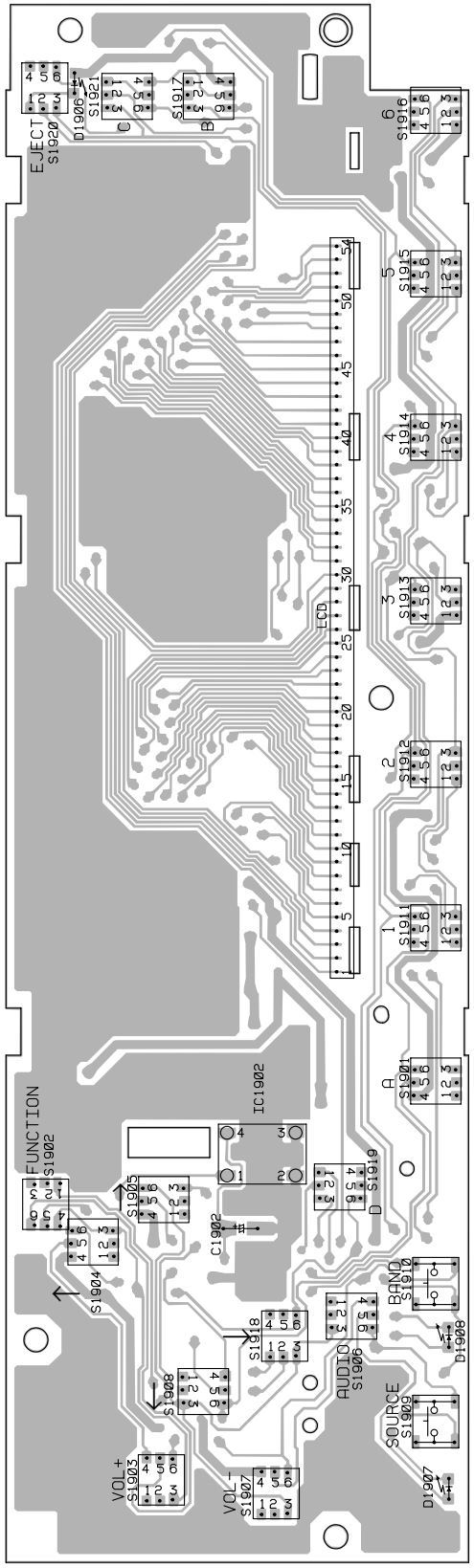
SIDE B



B FM/AM TUNER UNIT

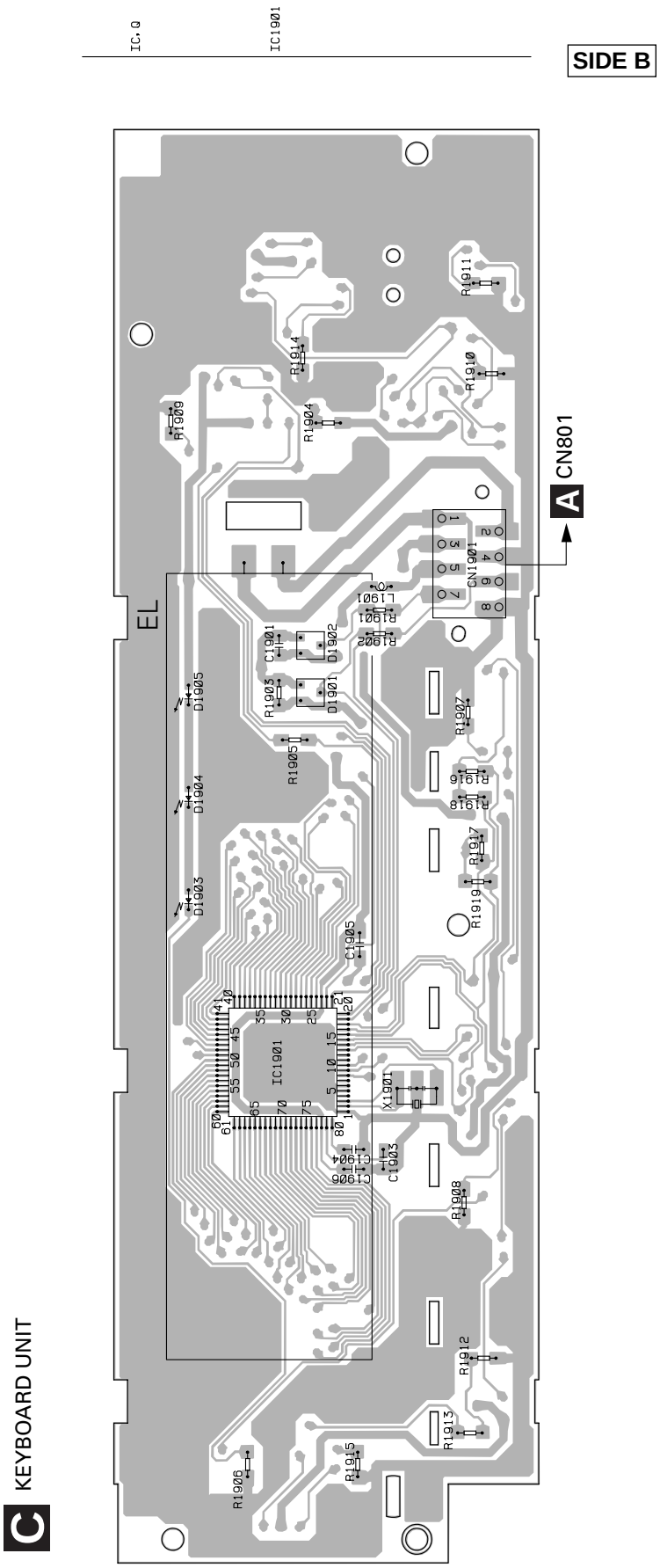
4.3 KEYBOARD UNIT

SIDE A

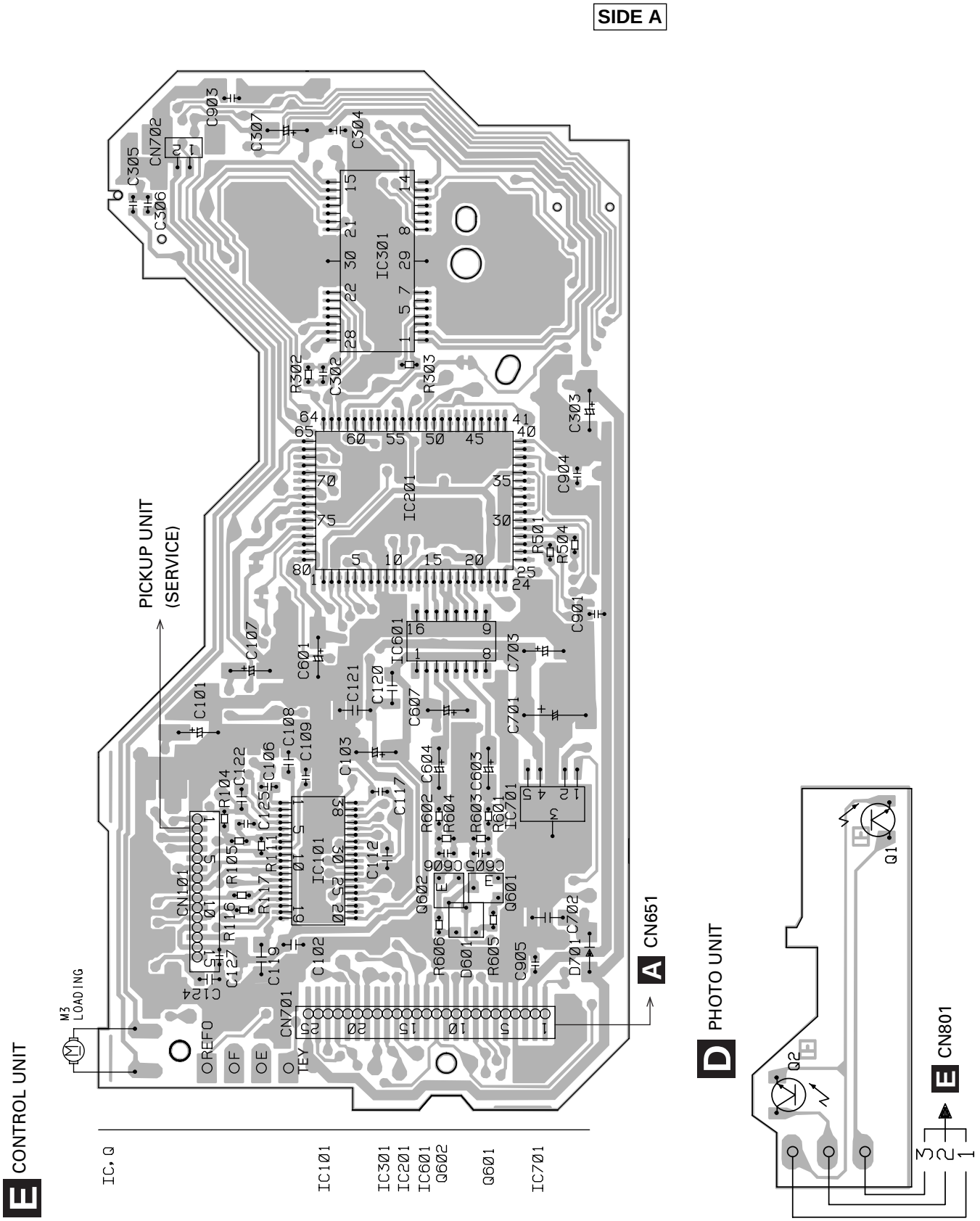


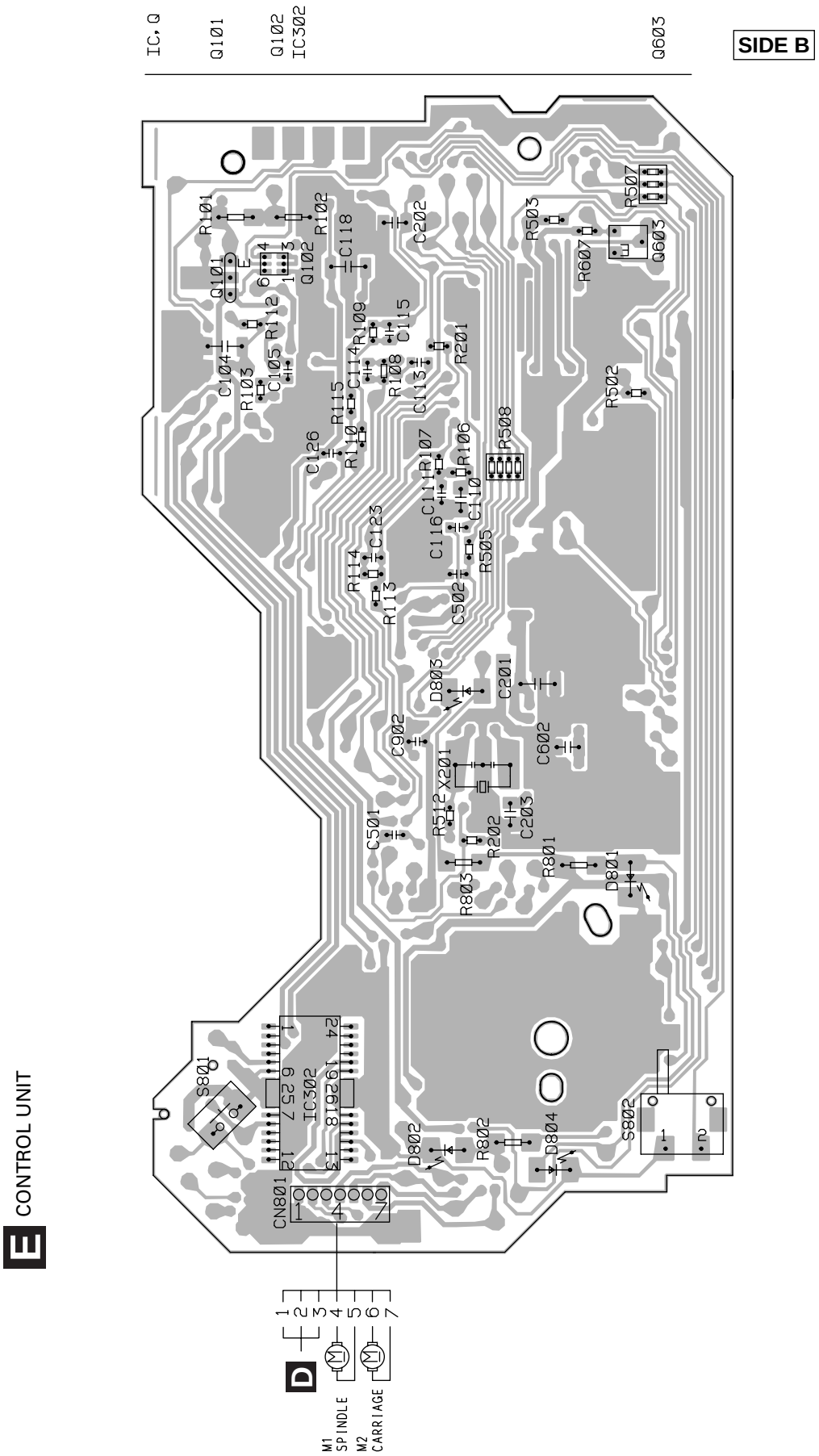
C KEYBOARD UNIT

IC.G IC1902


IC.G
IC1901
SIDE B
A
CN801
EL
R1911
R1914
R1910
R1909
R1904
CN1901
C1901
D1902
D1901
D1905
D1904
D1903
R1903
R1905
R1907
C1905
R1917
R1919
IC1901
X1901
C1903
R1908
R1912
R1913
R1915
R1906
KEYBOARD UNIT

4.4 CD MECHANISM MODULE

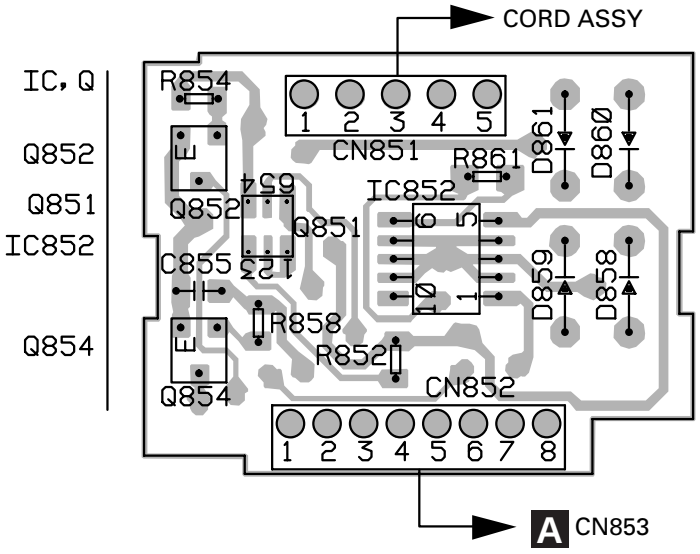



IC, Q
Q101
Q102
IC302
Q603
SIDE B
CONTROL UNIT
M1
SPINDLE
M2
CARRIAGE

4.5 DETACH ALARM UNIT(DEH-66DH)

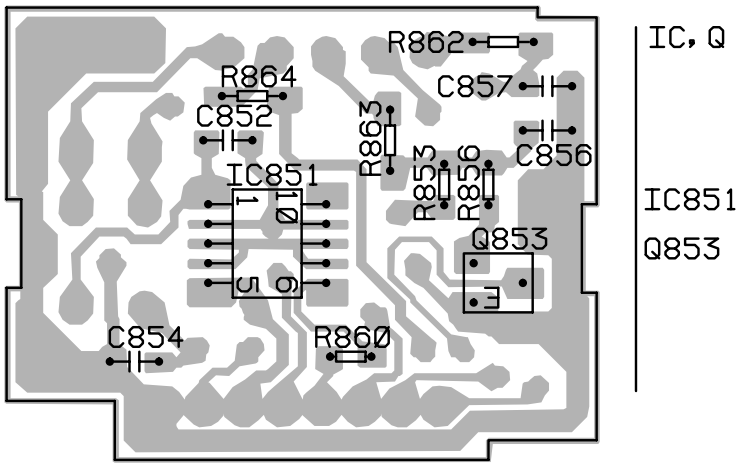
F DETACH ALARM UNIT

SIDE A



SIDE B

F DETACH ALARM UNIT



5. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

B Unit Number : CWE1417
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

=====Circuit Symbol and No.	Part Name=====	Part No.
IC 1	IC	PA4023B
IC 2	IC	PA4024A
Q 1	Transistor	2SC2412K
Q 2	Transistor	DTC124EU
Q 3	FET	3SK263
Q 31	Transistor	2SC2412K
Q 201	FET	2SK932
Q 202	Transistor	2SC2412K
Q 203	Transistor	DTC124EU
D 1	Diode	RD39JS
D 2	Diode	RD39JS
D 4	Diode	1SV250
D 5	Diode	KV1410-F1
D 6	Diode	MA157
D 7	Diode	KV1410-F1
D 8	Diode	KV1410-F1
D 201	Diode	MA157
D 202	Diode	MA157
D 231	Diode	SVC253
L 2	Coil	CTC1108
L 3	Inductor	LCTB2R2K2125
L 4	Coil	CTC1108
L 5	Coil	CTC1107
L 51	Ferri-Inductor	LAU150K
L 201	Ferri-Inductor	LAU4R7K
L 202	Ferri-Inductor	LAU330K
L 203	Inductor	CTF1287
L 208	Inductor	LAU121K
L 231	Inductor	LCTA3R3J3225
T 31	Coil	CTE1116
T 51	Coil(DEH-P76DH)	CTC1136
CF 51	Ceramic Filter	CTF1441
CF 52	Ceramic Filter	CTF1441
CF 53	Ceramic Filter	CTF1441
CF 232	Ceramic Filter	CTF1348
X 151	Resonator 920.5kHz	CSS1365
X 231	Crystal Resonator 10.26MHz	CSS1111
VR 154	Semi-fixed 150kΩ(B)	CCP1213

RESISTORS

=====Circuit Symbol & No.	Part Name=====	Part No.
R 1		RS1/16S225J
R 2		RS1/16S225J
R 4		RS1/16S154J
R 5		RS1/16S391J
R 6		RS1/16S223J
R 7		RS1/16S123J
R 8		RS1/16S332J
R 9		RS1/16S473J
R 10		RS1/16S223J
R 11		RS1/16S124J
R 13		RS1/16S563J
R 15		RS1/16S271J
R 16		RS1/16S104J
R 17		RS1/16S332J
R 18		RS1/16S332J
R 31		RS1/16S470J
R 32		RS1/16S822J
R 33		RS1/16S822J
R 34		RS1/16S331J
R 35		RS1/16S331J
R 51		RS1/16S271J
R 52		RS1/16S560J
R 55		RS1/16S102J
R 56		RS1/16S823J
R 61		RS1/16S392J
R 62		RS1/16S273J
R 101		RS1/16S272J
R 102		RS1/16S682J
R 103		RS1/16S333J
R 104		RS1/16S334J
R 105		RS1/16S683J
R 107		RS1/16S222J
R 151		RS1/16S222J
R 152		RS1/16S393J
R 155		RS1/16S273J
R 156		RS1/16S243J
R 157		RS1/16S203J
R 160		RS1/16S222J
R 161		RS1/16S563J
R 162		RS1/16S105J
R 163		RS1/16S223J
R 202		RS1/16S223J
R 203		RS1/16S225J
R 204		RS1/16S103J
R 206		RS1/16S220J
R 207		RS1/16S101J
R 208		RS1/16S102J
R 209		RS1/16S471J
R 214		RS1/16S822J
R 215		RS1/16S822J
R 217		RS1/16S102J
R 231		RS1/16S272J
R 232		RS1/16S473J
R 237		RS1/16S103J
R 238		RS1/16S104J
R 239		RS1/16S104J
R 240		RS1/16S332J
R 241		RS1/16S202J
R 243		RS1/16S183J
R 244		RS1/16S392J
R 247		RS1/16S123J

Circuit Symbol and No.	Part Name	Part No.
CAPACITORS		
C 1		CCSQCH6R0D50
C 2		CCSRCK2R0C50
C 4		CCSRCH820J50
C 6		CCSRCH820J50
C 8		CKSRYB103K25
C 9		CKSQYB104K16
C 10		CCSRCKR50C50
C 11		CEJA1R0M50
C 12		CKSRYB222K50
C 13		CKSRYB222K50
C 14		CCSRCH220J50
C 15		CCSRCH6R0D50
C 16		CCSRCH8R0D50
C 17		CKSRYB222K50
C 18		CKSRYB103K25
C 19		CKSRYB222K50
C 20		CKSRYB222K50
C 21		CEJA100M16
C 22		CCSRTH9R0D50
C 23		CCSRTH120J50
C 24		CCSRCH471J50
C 25		CKSRYB103K25
C 26		CCSRCH101J50
C 31		CKSRYB103K25
C 32		CKSQYB472K50
C 33		CCSRCH5R0C50
C 34		CKSQYB104K16
C 36		CCSRRH201J50
C 51		CKSRYB223K25
C 52		CKSRYB103K25
C 54		CCSRCH470J50
C 55		CKSQYB223K25
C 56		CKSQYB104K16
C 57		CKSRYB472K50
C 58		CEJA330M10
C 59		CKSRYB103K25
C 60		CKSRYB102K50
C 61		CCSRCH270J50
C 62		CKSRYB103K25
C 63		CEJAR22M50
C 101		CEJANP100M10
C 102		CKSRYB182K50
C 103		CKSRYB682K25
C 104		CEJA2R2M50
C 105		CKSRYB103K25
C 106		CCSRCH151J50
C 107		CKSRYB103K25
C 151		CKSRYB472K50
C 152		CKSQYB104K16
C 153		CEJA3R3M50
C 154		CKSQYB104K16
C 157		CEJA3R3M50
C 158		CKSYB474K16
C 159		CEJA220M6R3
C 160		CKSQYB104K16
C 161		CKSQYB104K16
C 162		CEJA3R3M50
C 163		CKSRYB102K50
C 170		CCSRCH100D50
C 201		CCSRCH471J50
C 202		CCSRCH100D50
C 203		CKSRYB332K50
C 204		CKSQYB473K16
C 205		CKSQYB473K16
C 206		CKSQYB104K16
C 207		CCSRCH560J50
C 209		CKSQYB104K16
C 211		CCSRCH101J50
C 212		CEJA470M6R3
C 213		CKSRYB103K25
C 216		CCSRCH101J50
C 217		CEJA1R5M50
C 219		CCSRCH471J50
C 220		CKSRYB103K25
C 230		CKSRYB103K25
C 231		CCSRCH330J50
C 232		CCSRCH150J50
C 233		CKSQYB104K16
C 234		CEJA330M10
C 235		CKSRYB332K50
C 236		CKSQYB473K16
C 237		CCSRCH120J50
C 239		CKSRYB472K50
C 240		CEJAR47M50
C 241		CKSQYB104K16
C 242		CEJAR47M50
C 243		CEJAR33M50
C 244		CKSQYB473K16
C 245		CKSRYB333K16
C 246		CKSQYB473K16
C 250		CCSRCH471J50

A Unit Number : CWM6381(DEH-66DH)
Unit Name : Tuner Amp Unit

MISCELLANEOUS

IC 151	IC		SN761027DL
IC 201	IC		PAL005A
IC 501	IC		LC72146M
IC 601	IC		PD4723B
IC 661	IC		PD4623B
IC 941	IC		S-80734ANDYI
Q 201	Transistor		DTC124EK
Q 251	Transistor		IMH3A
Q 252	Transistor		IMH3A
Q 253	Transistor		IMD2A
Q 301	Transistor		DTA124EK
Q 302	Transistor		IMH3A
Q 501	Transistor		2SC2412K
Q 502	Transistor		2SK208
Q 503	Transistor		2SC2412K
Q 601	Transistor		DTC124EK
Q 661	Transistor		DTA124EK
Q 801	Transistor		2SA1037K
Q 802	Transistor		2SD1760F5
Q 803	Transistor		DTC114EK
Q 804	Transistor		DTA143EK
Q 805	Transistor		DTC114EK
Q 806	Transistor		2SC2412K
Q 807	Transistor		2SB1238
Q 808	Transistor		DTC143EK
Q 809	Transistor		2SD1864
Q 911	Transistor		2SD1760F5
Q 921	Transistor		IMX1
Q 922	Transistor		DTC114EK
Q 951	Transistor		2SD2396
Q 952	Transistor		2SB1243
Q 953	Transistor		DTC124EK
Q 954	Transistor		2SA1674
Q 955	Transistor		2SA1674
Q 956	Transistor		IMH1A

Circuit Symbol and No.		Part Name	Part No.
Q	957	Transistor	2SC2412K
Q	958	Transistor	DTC144EK
Q	971	Transistor	2SD2396
Q	972	Transistor	IMD2A
D	201	Diode	DAN202K
D	501	Diode	DAN202K
D	502	Diode	HZS3LL(B)
D	801	Diode	DA204K
D	802	Diode	DA204K
D	803	Diode	DA204K
D	804	Diode	MA3062(M)
D	805	Diode	HZS9L(B3)
D	806		HZS5LL(A)
D	851	LED	BR4361F
D	901	Diode	ERA15-02VH
D	902	Diode	ERA15-02VH
D	911	Diode	ERA15-02VH
D	912	Diode	HZS6L(B1)
D	921	Diode	HZS7L(C3)
D	922	Diode	1SS133
D	923	Diode	HZS7L(A1)
D	931	Diode	ERA15-02VH
D	932	Diode	ERA15-02VH
D	941	Diode	DAN212K
D	951	Diode	HZS9L(B3)
D	952	Diode	HZS9L(A2)
D	953	Diode	1SS133
D	971	Diode	HZS9L(B1)
L	501	Ferri-Inductor	LAU2R2K
L	502	Ferri-Inductor	LAU220K
L	503	Inductor	LCTBR39K2125
L	601	Ferri-Inductor	LAU2R2K
L	602	Inductor	LAU100K
L	661	Ferri-Inductor	LAU2R2K
L	801	Ferri-Inductor	LAU2R2K
L	802	Transformer	MTX9005
L	901	Choke Coil 600µH	CTH1171
X	501	Crystal Resonator 7.2MHz	CSS1334
X	601	Ceramic Resonator 4.194MHz	CSS1047
X	661	Resonator 8.380MHz	CSS1354
		Detach Alarm Unit	CWM5291
		FM/AM Tuner Unit	CWE1417
BZ	601	Buzzer	CPV1011

RESISTORS

R	133		RS1/10S162J
R	134		RS1/10S162J
R	151		RS1/10S272J
R	152		RS1/10S272J
R	153		RS1/10S151J
R	154		RS1/10S151J
R	201		RS1/10S103J
R	202		RS1/10S331J
R	204		RS1/10S103J
R	205		RS1/10S103J
R	251		RS1/10S821J
R	252		RS1/10S821J
R	253		RS1/10S471J
R	254		RS1/10S471J
R	255		RS1/10S223J
R	256		RS1/10S223J
R	257		RS1/10S223J
R	258		RS1/10S223J
R	301		RS1/10S471J
R	302		RS1/10S471J
R	303		RS1/10S104J
R	304		RS1/10S104J
R	501		RS1/10S102J
R	502		RS1/10S102J
R	503		RS1/10S102J
R	506		RS1/10S103J
R	508		RS1/10S472J
R	509		RS1/10S152J
R	510		RS1/10S102J
R	511		RS1/10S472J
R	512		RS1/10S103J
R	513		RS1/10S102J
R	515		RS1/10S103J
R	516		RS1/10S222J
R	517		RS1/10S473J
R	518		RS1/10S473J
R	519		RS1/10S473J
R	520		RS1/10S224J
R	521		RS1/10S473J
R	522		RS1/10S473J
R	523		RS1/10S472J
R	524		RS1/10S472J
R	525		RS1/10S222J
R	526		RS1/10S223J
R	603		RS1/10S473J
R	607		RS1/10S473J
R	608		RS1/10S221J
R	609		RS1/10S682J
R	610		RA4C221J
R	611		RS1/10S682J
R	613		RS1/10S682J
R	615		RS1/10S682J
R	617		RA4C681J
R	623		RS1/10S473J
R	624		RS1/10S102J
R	625		RS1/10S202J
R	626		RS1/10S473J
R	627		RS1/10S473J
R	628		RS1/10S473J
R	629		RS1/10S473J
R	630		RS1/10S222J
R	631		RS1/10S473J
R	633		RS1/10S473J
R	634		RS1/10S473J
R	636		RS1/10S0R0J
R	637		RS1/10S393J
R	651		RS1/10S681J
R	652		RS1/10S102J
R	653		RS1/10S102J
R	654		RS1/10S102J
R	662		RS1/10S473J
R	663		RS1/10S222J
R	668		RS1/10S103J
R	669		RS1/10S203J
R	670		RS1/10S222J
R	671		RS1/10S473J
R	672		RS1/10S222J
R	673		RS1/10S473J
R	674		RS1/10S473J
R	706		RS1/10S0R0J
R	802		RS1/8S222J
R	804		RS1/8S472J
R	806		RS1/8S472J
R	808		RS1/10S472J
R	809		RS1/10S472J
R	810		RS2PMF100J
R	811		RD1/4PU471J
R	812		RS1/10S103J
R	813		RS1/10S224J
R	814		RS1/10S222J
R	815		RD1/4PU102J
R	816		RS1/10S391J
R	817		RS1/10S752J
R	818		RS1/10S104J
R	819		RS2P300JL

Circuit Symbol and No.	Part Name	Part No.
R 851		RS1/8S331J
R 865		RS1/10S103J
R 866		RS1/10S102J
R 867		RS1/10S473J
R 868		RS1/10S473J
R 869		RS1/10S473J
R 911		RS1/10S332J
R 912		RS1/10S101J
R 921		RS1/10S103J
R 922		RS1/10S473J
R 923		RS1/10S103J
R 924		RS1/10S103J
R 925		RS1/10S473J
R 926		RS1/10S472J
R 931		RS1/10S103J
R 941		RS1/10S102J
R 942		RS1/10S822J
R 951		RD1/4PU221J
R 952		RD1/4PU301J
R 953		RS1/10S1R0J
R 954		RD1/4PU331J
R 955		RD1/4PU331J
R 956		RS1/8S472J
R 957		RD1/4PU102J
R 958		RS1/10S472J
R 959		RD1/4PU102J
R 960		RS1/10S472J
R 961		RS1/10S103J
R 962		RS1/10S473J
R 963		RS1/10S473J
R 971		RD1/4PU221J
R 972		RS1/10S221J
R 973		RS1/10S472J
R 974		RS1/8S122J
CAPACITORS		
C 133		CKSQYB473K25
C 134		CKSQYB473K25
C 135		CEJA4R7M35
C 136		CEJA4R7M35
C 137		CEJA4R7M35
C 138		CEJA4R7M35
C 151		CKSQYB104K16
C 152		CEAS470M10
C 153		CEJANP100M10
C 154		CEJANP100M10
C 155		CKSQYB822K50
C 156		CKSQYB822K50
C 157		CEJA1R0M50
C 158		CEJA1R0M50
C 159		CKSQYB183K25
C 160		CKSQYB183K25
C 161		CKSQYB102K50
C 162		CKSQYB102K50
C 163		CEJANP2R2M35
C 164		CEJANP2R2M35
C 165		CKSQYB333K25
C 166		CKSQYB333K25
C 167		CEJA220M6R3
C 168		CEJA2R2M50
C 169		CKSQYB104K16
C 201		CKSYB224K16
C 202		CKSYB224K16
C 203		CKSYB224K16
C 204		CKSYB224K16
C 205		CEHAR010M50
C 206	3300µF/16V	CCH1163
C 207		CKSQYB103K50
C 208		CEHAR100M16
C 209		CKSYB105K16
C 210		CEHAR330M10
C 251		CEJA4R7M35
C 252		CEJA4R7M35
C 253		CEJA4R7M35
C 254		CEJA4R7M35
C 255		CKSQYB221K50
C 256		CKSQYB221K50
C 257		CKSQYB221K50
C 258		CKSQYB221K50
C 301		CEJA3R3M50
C 302		CEJA3R3M50
C 501		CKSQYB223K25
C 502		CKSQYB223K25
C 503		CKSQYB103K50
C 504		CKSQYB103K50
C 505		CKSQYB103K50
C 506		CKSQYB473K25
C 507		CKSQYB102K50
C 509		CKLSR473K16
C 510		CKSQYB103K50
C 512		CEJA100M16
C 513		CKSQYB103K50
C 514		CCSQCH101J50
C 515		CCSQCH101J50
C 516		CKSQYB103K50
C 518	4.7µF/16V	CCH1250
C 519		CKSQYB103K50
C 520		CCSQCH150J50
C 521		CCSQCH150J50
C 522		CKSQYB223K25
C 603		CEJA100M16
C 604		CKSQYB103K50
C 605		CCSQCH101J50
C 606		CCSQCH101J50
C 607		CASA1R0M16
C 609		CCSQCH101J50
C 661		CCSQCH101J50
C 662		CEJA4R7M35
C 663		CKSQYB104K16
C 664		CKSQYB473K25
C 801		CKSYB104K16
C 802		CCSQCH101J50
C 803		CEHAR100M16
C 804		CKSQYB103K50
C 805		CEHAR100M16
C 806		CKSQYB103K50
C 807		CKSQYB333K25
C 808		CKSQYB333K25
C 809		CEJANP4R7M16
C 858		CKSQYB473K25
C 901		CKSQYB103K50
C 911		CKSQYB103K50
C 912	0.22F/5.5V	CCL1037
C 913		CKSQYB472K50
C 914		CEHAQ102M16
C 915		CEAS470M10
C 921		CKSYB105K16
C 922		CKSYB102K50
C 931		CKSQYB473K25
C 941		CEJA2R2M50
C 951		CKSQYB103K50

Circuit Symbol and No.	Part Name	Part No.
C 952		CEHAQ101M16
C 953		CKSQYB103K50
C 954	330µF/10V	CCH1181
C 971		CKSQYB473K25
C 972		CKSQYB102K50
C 973		CEAS101M10

A Unit Number : CWX6382(DEH-46DH)
Unit Name : Tuner Amp Unit

MISCELLANEOUS

IC	151	IC	SN761027DL
IC	201	IC	PAL005A
IC	501	IC	LC72146M
IC	601	IC	PD4723B
IC	661	IC	PD4623B
IC	941	IC	S-80734ANDYI
Q	201	Transistor	DTC124EK
Q	252	Transistor	IMH3A
Q	253	Transistor	IMD2A
Q	301	Transistor	DTA124EK
Q	302	Transistor	IMH3A
Q	501	Transistor	2SC2412K
Q	502	Transistor	2SK208
Q	503	Transistor	2SC2412K
Q	661	Transistor	DTA124EK
Q	801	Transistor	2SA1037K
Q	802	Transistor	2SD1760F5
Q	803	Transistor	DTC114EK
Q	804	Transistor	DTA143EK
Q	805	Transistor	DTC114EK
Q	806	Transistor	2SC2412K
Q	807	Transistor	2SB1238
Q	808	Transistor	DTC143EK
Q	809	Transistor	2SD1864
Q	911	Transistor	2SD1760F5
Q	921	Transistor	IMX1
Q	922	Transistor	DTC114EK
Q	951	Transistor	2SD2396
Q	952	Transistor	2SB1243
Q	953	Transistor	DTC124EK
Q	954	Transistor	2SA1674
Q	955	Transistor	2SA1674
Q	956	Transistor	IMH1A
Q	957	Transistor	2SC2412K
Q	958	Transistor	DTC144EK
Q	971	Transistor	2SD2396
Q	972	Transistor	IMD2A
D	201	Diode	DAN202K
D	501	Diode	DAN202K
D	502	Diode	HZS3LL(B)
D	801	Diode	DA204K
D	802	Diode	DA204K
D	803	Diode	DA204K
D	804	Diode	MA3062(M)
D	805	Diode	HZS9L(B3)
D	806		HZS5LL(A)
D	901	Diode	ERA15-02VH
D	902	Diode	ERA15-02VH
D	911	Diode	ERA15-02VH
D	912	Diode	HZS6L(B1)
D	921	Diode	HZS7L(C3)
D	922	Diode	1SS133
D	923	Diode	HZS7L(A1)
D	931	Diode	ERA15-02VH
D	932	Diode	ERA15-02VH

Circuit Symbol and No.	Part Name	Part No.
D 941	Diode	DAN212K
D 951	Diode	HZS9L(B3)
D 952	Diode	HZS9L(A2)
D 953	Diode	1SS133
D 971	Diode	HZS9L(B1)
L 501	Ferri-Inductor	LAU2R2K
L 502	Ferri-Inductor	LAU220K
L 503	Inductor	LCTBR39K2125
L 601	Ferri-Inductor	LAU2R2K
L 602	Inductor	LAU100K
L 661	Ferri-Inductor	LAU2R2K
L 801	Ferri-Inductor	LAU2R2K
L 802	Transformer	MTX9005
L 901	Choke Coil 600µH	CTH1171
X 501	Crystal Resonator 7.2MHz	CSS1334
X 601	Ceramic Resonator 4.194MHz	CSS1047
X 661	Resonator 8.380MHz	CSS1354
	FM/AM Tuner Unit	CWE1417

RESISTORS

R 133		RS1/10S162J
R 134		RS1/10S162J
R 151		RS1/10S272J
R 152		RS1/10S272J
R 153		RS1/10S151J
R 154		RS1/10S151J
R 201		RS1/10S103J
R 202		RS1/10S331J
R 204		RS1/10S103J
R 205		RS1/10S103J
R 253		RS1/10S471J
R 254		RS1/10S471J
R 257		RS1/10S223J
R 258		RS1/10S223J
R 301		RS1/10S471J
R 302		RS1/10S471J
R 303		RS1/10S104J
R 304		RS1/10S104J
R 501		RS1/10S102J
R 502		RS1/10S102J
R 503		RS1/10S102J
R 506		RS1/10S103J
R 508		RS1/10S472J
R 509		RS1/10S152J
R 510		RS1/10S102J
R 511		RS1/10S472J
R 512		RS1/10S103J
R 513		RS1/10S102J
R 515		RS1/10S103J
R 516		RS1/10S222J
R 517		RS1/10S473J
R 518		RS1/10S473J
R 519		RS1/10S473J
R 520		RS1/10S224J
R 521		RS1/10S473J
R 522		RS1/10S473J
R 523		RS1/10S472J
R 524		RS1/10S472J
R 525		RS1/10S222J
R 526		RS1/10S223J
R 603		RS1/10S473J
R 607		RS1/10S473J
R 608		RS1/10S221J
R 609		RS1/10S682J
R 610		RA4C221J

Circuit Symbol and No.		Part Name	Part No.
R	611		RS1/10S682J
R	613		RS1/10S682J
R	615		RS1/10S682J
R	617		RA4C681J
R	623		RS1/10S473J
R	626		RS1/10S473J
R	627		RS1/10S473J
R	628		RS1/10S473J
R	629		RS1/10S473J
R	630		RS1/10S222J
R	631		RS1/10S473J
R	633		RS1/10S473J
R	635		RS1/10S473J
R	636		RS1/10S0R0J
R	637		RS1/10S393J
R	651		RS1/10S681J
R	652		RS1/10S102J
R	653		RS1/10S102J
R	654		RS1/10S102J
R	662		RS1/10S473J
R	663		RS1/10S222J
R	668		RS1/10S103J
R	669		RS1/10S203J
R	670		RS1/10S222J
R	671		RS1/10S473J
R	672		RS1/10S222J
R	673		RS1/10S473J
R	674		RS1/10S473J
R	706		RS1/10S0R0J
R	802		RS1/8S222J
R	804		RS1/8S472J
R	806		RS1/8S472J
R	808		RS1/10S472J
R	809		RS1/10S472J
R	810		RS2PMF100J
R	811		RD1/4PU471J
R	812		RS1/10S103J
R	813		RS1/10S224J
R	814		RS1/10S222J
R	815		RD1/4PU102J
R	816		RS1/10S391J
R	817		RS1/10S752J
R	818		RS1/10S104J
R	819		RS2P300JL
R	868		RS1/10S473J
R	911		RS1/10S332J
R	912		RS1/10S101J
R	921		RS1/10S103J
R	922		RS1/10S473J
R	923		RS1/10S103J
R	924		RS1/10S103J
R	925		RS1/10S473J
R	926		RS1/10S472J
R	931		RS1/10S103J
R	941		RS1/10S102J
R	942		RS1/10S822J
R	951		RD1/4PU221J
R	952		RD1/4PU301J
R	953		RS1/10S1R0J
R	954		RD1/4PU331J
R	955		RD1/4PU331J
R	956		RS1/8S472J
R	957		RD1/4PU102J
R	958		RS1/10S472J
R	959		RD1/4PU102J
R	960		RS1/10S472J
R	961		RS1/10S103J
R	962		RS1/10S473J
R	963		RS1/10S473J
R	971		RD1/4PU221J
R	972		RS1/10S221J
R	973		RS1/10S472J
R	974		RS1/8S122J

CAPACITORS

Circuit Symbol and No.		Part Name	Part No.
C	133		CKSQYB473K25
C	134		CKSQYB473K25
C	135		CEJA4R7M35
C	136		CEJA4R7M35
C	137		CEJA4R7M35
C	138		CEJA4R7M35
C	151		CKSQYB104K16
C	152		CEAS470M10
C	153		CEJANP100M10
C	154		CEJANP100M10
C	155		CKSQYB822K50
C	156		CKSQYB822K50
C	157		CEJA1R0M50
C	158		CEJA1R0M50
C	159		CKSQYB183K25
C	160		CKSQYB183K25
C	161		CKSQYB102K50
C	162		CKSQYB102K50
C	163		CEJANP2R2M35
C	164		CEJANP2R2M35
C	165		CKSQYB333K25
C	166		CKSQYB333K25
C	167		CEJA220M6R3
C	168		CEJA2R2M50
C	169		CKSQYB104K16
C	201		CKSYB224K16
C	202		CKSYB224K16
C	203		CKSYB224K16
C	204		CKSYB224K16
C	205		CEHAR010M50
C	206	3300µF/16V	CCH1163
C	207		CKSQYB103K50
C	208		CEHAR100M16
C	209		CKSYB105K16
C	210		CEHAR330M10
C	253		CEJA4R7M35
C	254		CEJA4R7M35
C	257		CKSQYB221K50
C	258		CKSQYB221K50
C	301		CEJA3R3M50
C	302		CEJA3R3M50
C	501		CKSQYB223K25
C	502		CKSQYB223K25
C	503		CKSQYB103K50
C	504		CKSQYB103K50
C	505		CKSQYB103K50
C	506		CKSQYB473K25
C	507		CKSQYB102K50
C	509		CKLSR473K16
C	510		CKSQYB103K50
C	512		CEJA100M16
C	513		CKSQYB103K50
C	514		CCSQCH101J50
C	515		CCSQCH101J50
C	516		CKSQYB103K50

Circuit Symbol and No.	Part Name	Part No.
C 518	4.7µF/16V	CCH1250
C 519		CKSQYB103K50
C 520		CCSQCH150J50
C 521		CCSQCH150J50
C 522		CKSQYB223K25
C 603		CEJA100M16
C 604		CKSQYB103K50
C 605		CCSQCH101J50
C 606		CCSQCH101J50
C 607		CASA1R0M16
C 609		CCSQCH101J50
C 661		CCSQCH101J50
C 662		CEJA4R7M35
C 663		CKSQYB104K16
C 664		CKSQYB473K25
C 801		CKSYB104K16
C 802		CCSQCH101J50
C 803		CEHAR100M16
C 804		CKSQYB103K50
C 805		CEHAR100M16
C 806		CKSQYB103K50
C 807		CKSQYB333K25
C 809		CEJANP4R7M16
C 808		CKSQYB333K25
C 901		CKSQYB103K50
C 911		CKSQYB103K50
C 912	0.22F/5.5V	CCL1037
C 913		CKSQYB472K50
C 914		CEHAQ102M16
C 915		CEAS470M10
C 921		CKSYB105K16
C 922		CKSYB102K50
C 931		CKSQYB473K25
C 941		CEJA2R2M50
C 951		CKSQYB103K50
C 952		CEHAQ101M16
C 953		CKSQYB103K50
C 954	330µF/10V	CCH1181
C 971		CKSQYB473K25
C 972		CKSQYB102K50
C 973		CEAS101M10

C Unit Number : CWX2091
Unit Name : Keyboard Unit

MISCELLANEOUS

IC	1901	IC	PD6197A
IC	1902	IC	RS-140
D	1901	Diode	DA204K
D	1902	Diode	DA204K
D	1903	LED	CL220PGC
D	1904	LED	CL220PGC
D	1905	LED	CL220PGC
D	1906	LED	CL170PGCD
D	1907	LED	CL170PGCD
D	1908	LED	CL170PGCD
L	1901	Inductor	LCTB1R0K2125
X	1901	Ceramic Resonator 4.9152MHz	CSS1449
S	1901	Switch	CSG1085
S	1902	Switch	CSG1084
S	1903	Switch	CSG1085
S	1904	Switch	CSG1085
S	1905	Switch	CSG1085
S	1906	Switch	CSG1085
S	1907	Switch	CSG1085
S	1908	Switch	CSG1085

Circuit Symbol and No.	Part Name	Part No.
S 1909	Switch	CSG1061
S 1910	Switch	CSG1061
S 1911	Switch	CSG1084
S 1912	Switch	CSG1084
S 1913	Switch	CSG1084
S 1914	Switch	CSG1084
S 1915	Switch	CSG1084
S 1916	Switch	CSG1084
S 1917	Switch	CSG1085
S 1918	Switch	CSG1084
S 1919	Switch	CSG1084
S 1920	Switch	CSG1084
S 1921	Switch	CSG1086
	LCD	CAW1390
	EL	CEL1488

RESISTORS

R 1901		RS1/8S222J
R 1902		RS1/8S222J
R 1903		RS1/8S562J
R 1904		RS1/8S470J
R 1905		RS1/8S2R2J
R 1906		RS1/8S121J
R 1907		RS1/8S121J
R 1908		RS1/8S121J
R 1909		RS1/8S121J
R 1910		RS1/8S121J
R 1911		RS1/8S121J
R 1912		RS1/8S121J
R 1913		RS1/8S121J
R 1914		RS1/8S121J
R 1915		RS1/8S121J
R 1918		RS1/8S0R0J
R 1919		RS1/8S0R0J

CAPACITORS

C 1901		CKSQYB103K50
C 1902		CEV470M6R3
C 1903		CKSQYB104K16
C 1904		CKSQYB104K16
C 1905		CKSYB104K25
C 1906		CKSQYB104K16

E Unit Number : CWX2268
Unit Name : Control Unit

MISCELLANEOUS

IC	101	IC	UPC2572GS
IC	201	IC	UPD63702AGF
IC	301	IC	BA6997FM
IC	302	IC	BA6285FP
IC	601	IC	TA2063F
IC	701	IC	BA05SFP
Q	101	Transistor	2SD1664
Q	102	Transistor	MA151WA
Q	601	Transistor	2SD1781K
Q	602	Transistor	2SD1781K
Q	603	Transistor	2SB709A
D	601	Diode	MA151WA
D	701	Diode	1SR154-400
D	801	Chip LED	CL200IRX
D	802	Chip LED	CL200IRX
X	201	Ceramic Resonator 16.93MHz	CSS1363
S	801	Switch (Home)	CSN1028
S	802	Spring Switch (Clamp)	CSN1044

=====Circuit Symbol and No.		Part Name=====	Part No.
RESISTORS			
R	101		RS1/8S100J
R	102		RS1/8S120J
R	103		RS1/16S102J
R	104		RS1/16S822J
R	105		RS1/16S682J
R	106		RS1/16S183J
R	107		RS1/16S822J
R	108		RS1/16S333J
R	109		RS1/16S683J
R	110		RS1/16S134J
R	111		RS1/16S273J
R	112		RS1/16S222J
R	113		RS1/16S103J
R	114		RS1/16S103J
R	115		RS1/16S102J
R	116		RS1/16S163J
R	117		RS1/16S163J
R	201		RS1/16S104J
R	202		RS1/16S473J
R	501		RS1/16S0R0J
R	505		RS1/16S102J
R	507		RA3C102J
R	508		RA4C681J
R	601		RS1/16S102J
R	602		RS1/16S102J
R	603		RS1/16S223J
R	604		RS1/16S223J
R	605		RS1/16S162J
R	606		RS1/16S162J
R	607		RS1/16S103J
R	801		RS1/8S751J
R	802		RS1/8S751J
CAPACITORS			
C	101		CEV101M6R3
C	102		CKSQYB104K16
C	103		CEV470M6R3
C	104		CKSYB334K16
C	105		CCSRCH330J50
C	106		CKSRYB103K25
C	107		CEV4R7M35
C	108		CKSQYB273K50
C	109		CCSRCH101J50
C	110		CKSQYB104K16
C	111		CKSRYB332K50
C	112		CKSQYB473K16
C	113		CKSRYB103K25
C	114		CKSRYB391K50
C	115		CCSRCH121J50
C	116		CKSRYB682K50
C	117		CKSRYB333K16
C	118		CKSYB334K16
C	119		CKSYB334K16
C	120		CKSYB334K16
C	121		CKSYB334K16
C	122		CKSQYB104K16
C	123		CKSRYB472K50
C	124		CKSQYB104K16
C	125		CCSRCH6R0D50
C	126		CKSRYB153K25
C	127		CCSRCH102J25
C	201		CKSYB334K16
C	202		CKSQYB104K16
C	203		CKSQYB104K16
C	303		CEV470M16
C	304		CKSRYB103K25
C	305		CKSRYB103K25
C	306		CKSRYB103K25
C	307		CEV100M25
C	502		CKSRYB471K50
C	601		CEV101M6R3
C	602		CKSQYB104K16
C	603		CEV4R7M35
C	604		CEV4R7M35
C	605		CKSRYB152K50
C	606		CKSRYB152K50
C	607		CEV220M6R3
C	701	22µF/6.3V	CCH1300
C	702		CKSYB334K16
C	703		CEV101M6R3
C	901		CCSRCH471J50
C	902		CCSRCH271J50
C	903		CCSRCH471J50
C	904		CCSRCH101J50

F Unit Number : CWM5291
Unit Name : Detach Alarm Unit(DEH-66DH)

MISCELLANEOUS			
IC	851	IC	TPD1018F
IC	852	IC	TPD1018F
Q	851	Transistor	IMD2A
Q	852	Transistor	DTC123EK
Q	853	Transistor	DTC123EK
Q	854	Transistor	DTC123EK
D	858	Diode	ERA15-02VH
D	859	Diode	ERA15-02VH
D	860	Diode	ERA15-02VH
D	861	Diode	ERA15-02VH
RESISTORS			
R	852		RS1/10S103J
R	853		RS1/10S103J
R	854		RS1/10S223J
R	856		RS1/10S163J
R	858		RS1/10S163J
R	860		RS1/10S103J
R	861		RS1/10S103J
R	862		RS1/8S102J
R	863		RS1/8S102J
R	864		RS1/8S102J
CAPACITORS			
C	852		CKSQYB473K25
C	854		CKSQYB473K25
C	855		CKSQYB103K50
C	856		CKSQYB103K50
C	857		CKSQYB103K50

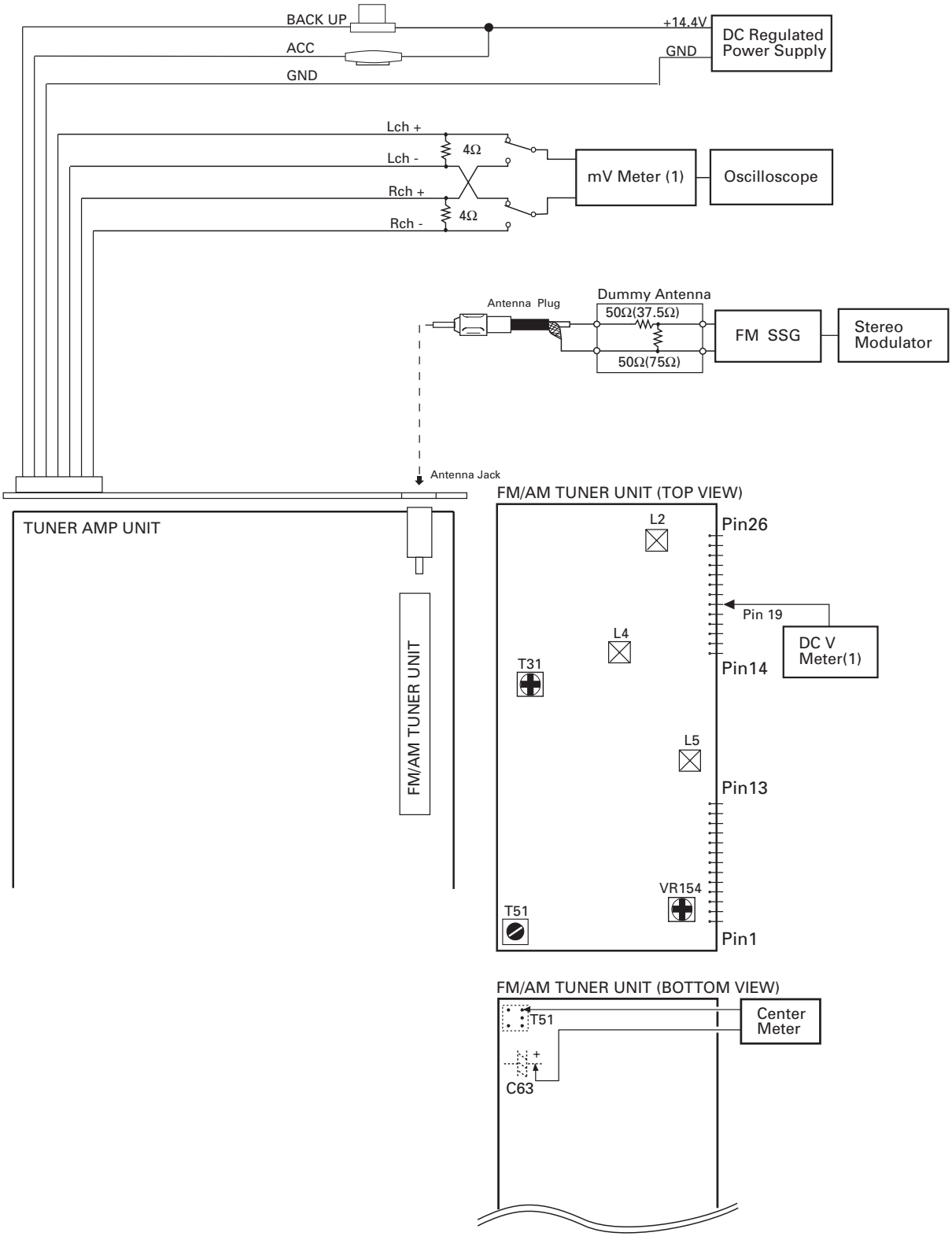
D Unit Number :
Unit Name : Photo Unit

Q	1	Photo-transistor	CPT-230S-X
Q	2	Photo-transistor	CPT-230S-X
Miscellaneous Parts List			
		Pickup Unit(SERVICE)	CXX1230
M	1	Motor Unit(Spindle)	CXA8912
M	2	CRG Motor Unit(Carriage)	CXB3043
M	3	Load Motor Unit(Loading)	CXA8702

6. ADJUSTMENT

6.1 TUNER ADJUSTMENT

● Connection Diagram



FM ADJUSTMENT

Modulation M:MONO MOD., 400Hz 30%(22.5kHz Dev.) or 400Hz 100%(75kHz Dev.)
S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

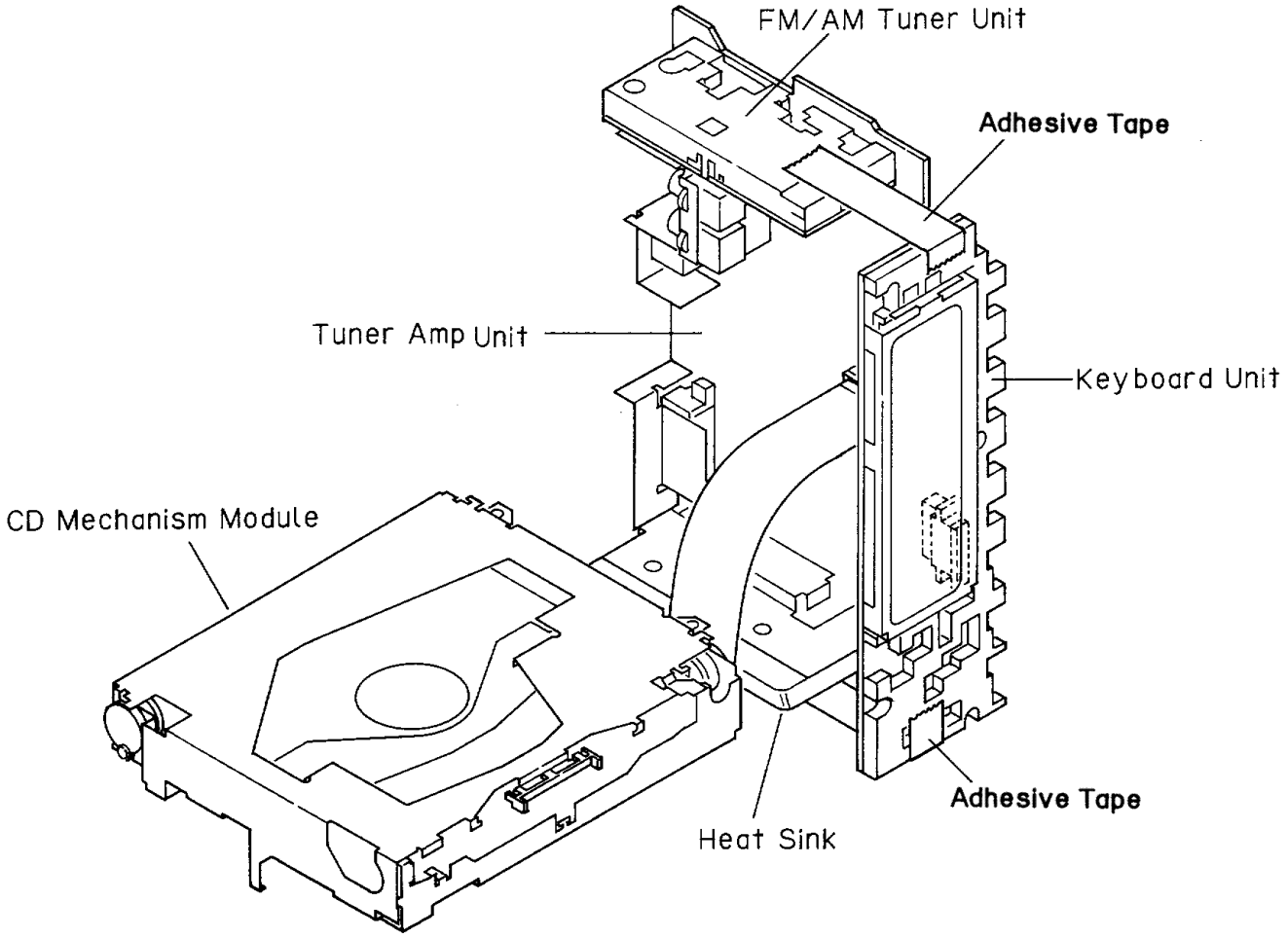
NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	•••••	•••••	107.9	L5	DC V Meter(1) : 6V
IF	2	98.1 M	60—100	98.1	T51	Center Meter : 0
ANT Coil	3	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	4	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
IFT	5	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	6	98.1 S	40	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

6.2 CHECKING THE KEYBOARD UNIT

When checking the Keyboard Unit and Tuner Amp Unit , set the unit as shown in the figure. Secure the Keyboard unit by using adhesive tape to prevent it from becoming unstable during the check.
Even without the CD mechanism module, the minimum necessary items, such as the EL check, can be checked.

In the Keyboard Unit and Tuner Amp Unit , there are EL high-voltage sections with the description of "HIGH VOLTAGE". Therefore, special care should be taken when handling them to prevent electrical shock.



6.3 CD ADJUSTMENT

1)Precautions

- This unit uses a single power supply (+5V) for the regulator. The signal reference potential, therefore, is connected to REFO(approx. 2.5V) instead of GND.
  If REFO and GND are connected to each other by mistake during adjustments, not only will it be impossible to measure the potential correctly, but the servo will malfunction and a severe shock will be applied to the pick-up. To avoid this, take special note of the following.
  Do not connect the negative probe of the measuring equipment to REFO and GND together. It is especially important not to connect the channel 1 negative probe of the oscilloscope to REFO with the channel 2 negative probe connected to GND.
  Since the frame of the measuring instrument is usually at the same potential as the negative probe, change the frame of the measuring instrument to floating status.
  If by accident REFO comes in contact with GND, immediately switch the regulator or power OFF.

- Always make sure the regulator is OFF when connecting and disconnecting the various filters and wiring required for measurements.

- Before proceeding to further adjustments and measurements after switching regulator ON, let the player run for about one minute to allow the circuits to stabilize.

- Since the protective systems in the unit's software are rendered inoperative in test mode, be very careful to avoid mechanical and /or electrical shocks to the system when making adjustment.

- Test mode starting procedure
  Switch ACC, back-up ON while pressing the **4** and **6** keys together.

- Test mode cancellation
  Switch ACC, back-up OFF.

- Disc detection during loading and eject operations is performed by means of a photo transistor in this unit.Consequently, if the inside of the unit is exposed to a strong light source when the outer casing is removed for repairs or adjustment, the following malfunctions may occur.
  *During PLAY, even if the eject button is pressed,the disc will not be ejected and the unit will remain in the PLAY mode.
  *The unit will not load a disc.
  When the unit malfunctions this way, either re-position the light source, move the unit or cover the photo transistor.

- When loading and unloading discs during adjustment procedures, always wait for the disc to be properly clamped or ejected before pressing another key. Otherwise, there is a risk of the actuator being destroyed.

- Turn power off when pressing the button **TR+** or the button **TR-** key for focus search in the test mode. (Or else lens may stick and the actuator may be damaged.)

- SINGLE/4TRK/10TRK/32TRK will continue to operate even after the key is released.Tracking is closed the moment C-MOVE is released.

- JUMP MODE resets to SINGLE as soon as power is switched OFF.

6.4 CHECKING THE GRATING

● Checking the Grating After Changing the Pickup Unit

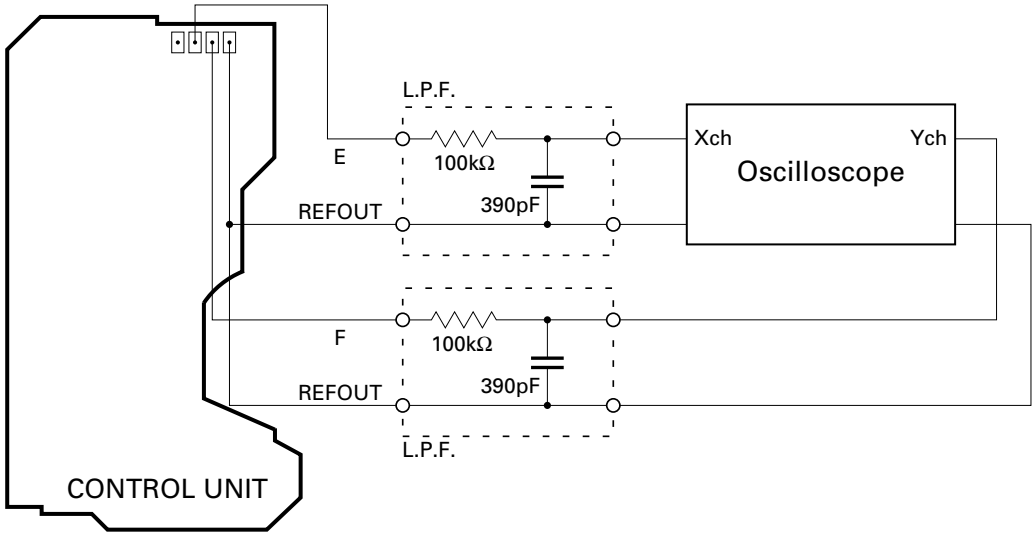
• **Note :**
Unlike previous CD mechanism modules the grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best considered as a last resort. However, if the PU unit must be changed, the grating should be checked using the procedure below.

• **Purpose :**
To check that the grating is within an acceptable range.

• **Symptoms of Mal-adjustment :**
If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or track searching taking a long time, may appear.

• **Method :**

• Measuring Equipment	• Oscilloscope, Two L.P.F.
• Measuring Points	• E, F, REFOUT
• Disc	• ABEX TCD-784
• Mode	• TEST MODE



• **Checking Procedure**
1. In test mode, load the disc and switch the 5V regulator on.
2. Using the **TR+** and **TR-** buttons, move the PU unit to the innermost track.
3. Press key **3** to close focus, the display should read "91". Press key **2** to implement the tracking balance adjustment the display should now read "81". Press key **3** 4 times. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75° . Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

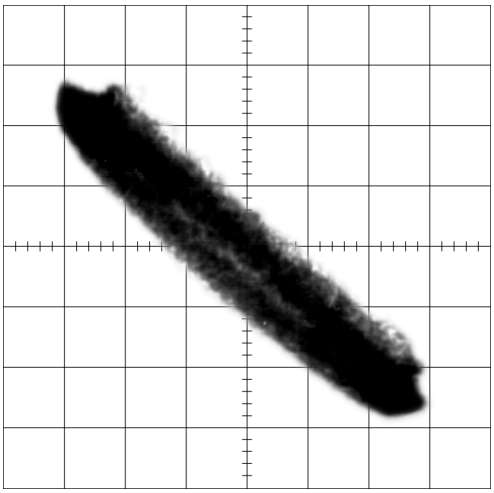
• **Note**
Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" (the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

• **Hint**
Reloading the disc changes the clamp position and may decrease the "wobble".

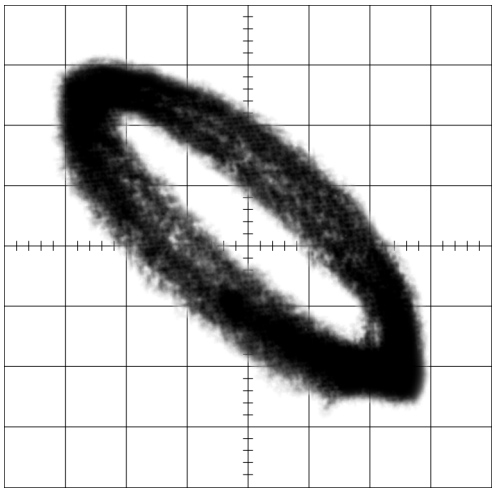
Grating waveform

Ech → Xch 20mV/div, AC
Fch → Ych 20mV/div, AC

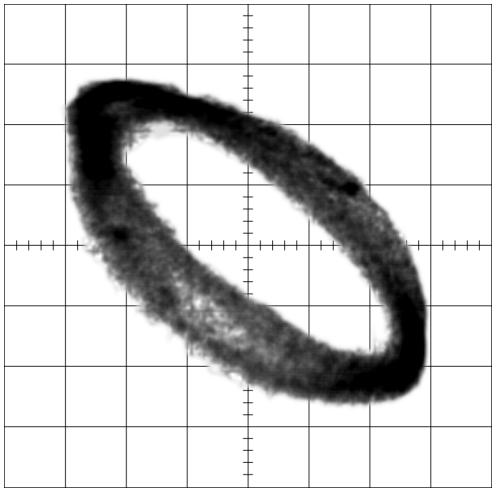
0°



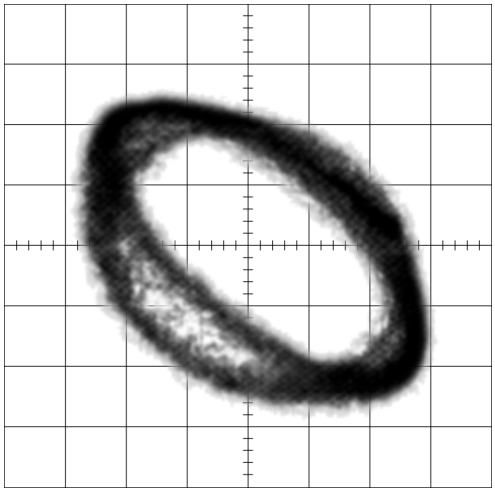
30°



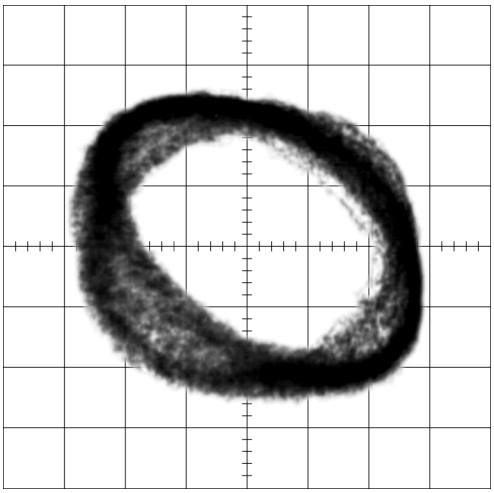
45°



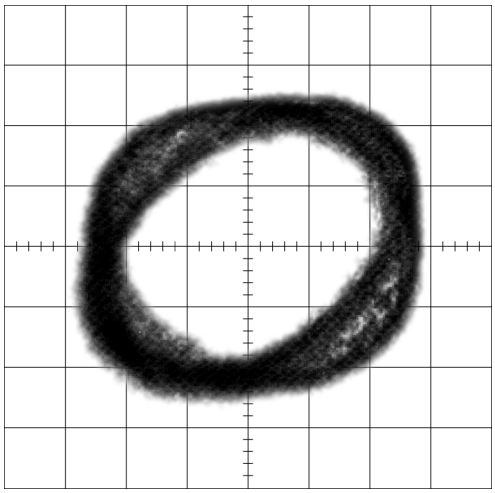
60°



75°

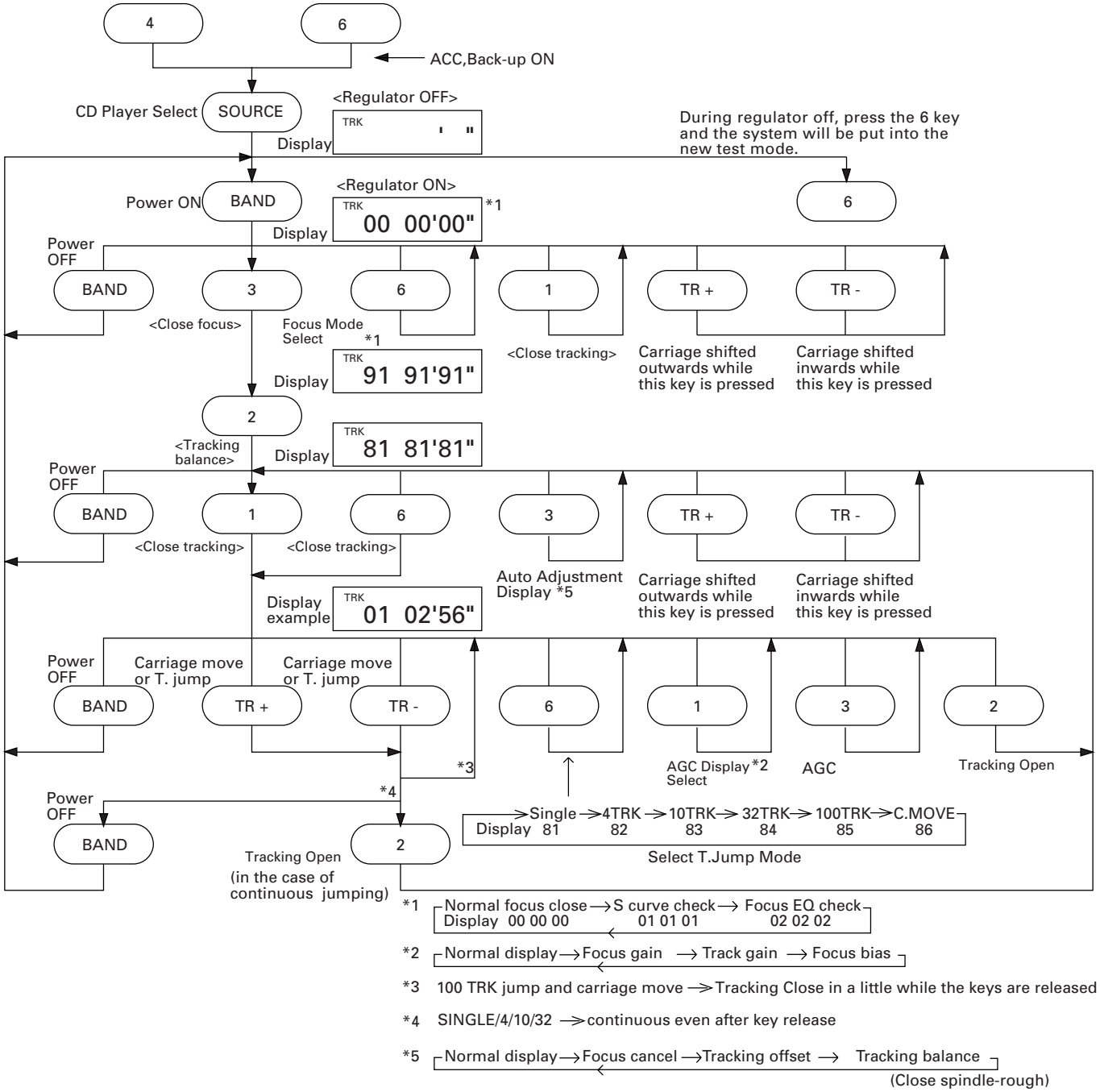


90°



6.5 TEST MODE

● Flow Chart



7. GENERAL INFORMATION

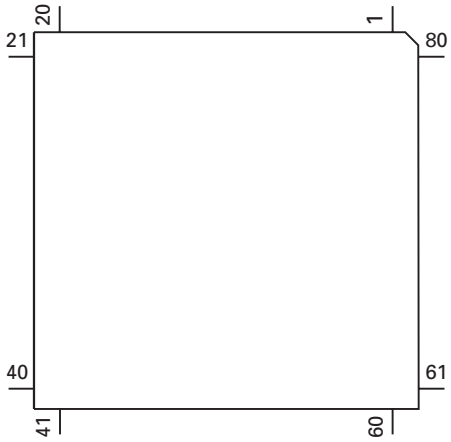
7.1 PARTS

7.1.1 IC

● **Pin Functions (PD6197A)**

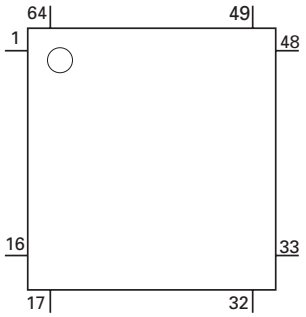
Pin No.	Pin Name	I/O	Function and Operation
1	VSS		GND
2	X1		Crystal oscillator connection pin
3	X0		Crystal oscillator connection pin
4	NC		Not used
5,6	MOD1,0	I	Connect to GND
7	NC		Not used
8	KYDT	O	Display/key data output
9	DPDT	I	Display/key data input
10	REMIN	I	Remote control pulse input
11,12	NC		Not used
13-16	$\overline{KD4}$-$\overline{KD1}$	I	Key data input
17-21	$\overline{KS6}$-$\overline{KS2}$	O	Key strobe output
22	NC		Not used
23	VDD		VDD
24-73	SEG0-49	O	LCD segment output
74-77	COM3-0	O	LCD common output
78	VLCD	I	LCD voltage input
79,80	V2,V1		Power supply terminal

*PD6197A



IC's marked by are MOS type.*
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

*PD4623B



● **Pin Functions (PD4623B)**

Pin No.	Pin Name	I/O	Format	Function and Operation
1	NC			Not used
2	$\overline{\text{XRST}}$	O	C	CD LSI reset output
3,4	NC			Not used
5	DCE	O	C	Chip enable output
6	$\overline{\text{CRST}}$	O	C	IP-BUS reset output
7	$\overline{\text{HOME}}$			Connect to VDD
8	$\overline{\text{CLAMP}}$	I		Disc clamp input
9	VSS			GND
10	NC			Not used
11	CDEJET	O	C	Load motor eject control output
12	CDLOAD	O	C	LOAD motor loading control output
13	CONT	O	C	Servo driver power supply control
14	NC			Not used
15	CDMUTE	O	C	CD mute control output
16	DEEM			Not used
17	$\overline{\text{ADENA}}$	O	C	A/D reference voltage control output
18-23	NC			Not used
24	VSS			GND
25	DSET			Not used
26	BMUTE			Not used
27-30	NC			Not used
31	$\overline{\text{BRXEN}}$	I/O	C	Reception enable input/output
32	$\overline{\text{BSRQ}}$	I		P-BUS serial pole request input
33	VDCONT	O	C	VD power control outpur
34	CD5VON	O	C	CD +5V power control output
35	$\overline{\text{RESET}}$	I		Reset input
36	TXARI	I		VDD
37	$\overline{\text{CSENS}}$	I		Flap close sense input
38	$\overline{\text{BRST}}$	I		P–BUS reset input
39	CMPARI	I		GND
40	VDD			Power supply
41	X2			Crystal oscillator connection pin
42	X1	I		Crystal oscillator connection pin
43	IC			Connect to GND
44	NC			Not used
45	$\overline{\text{TESTIN}}$	I		Test program start input
46	AVSS	I		A/D GND
47	TEMP	I		Temperature sense input
48	VDSENS	I		VD short detection input
49	EJTSNS			Disc EJECT position detect
50	DSCSNS	I		Disc detect
51	NC			Not used
52	FOK	I		FOK signal input
53	MIRR	I		Mirror detection input
54	LOCK	I		Spindle lock detector input
55	AVDD			Power supply
56	AVREF	I		A/D converter reference voltage
57	XSI	I		Serial data input
58	XSO	O	C	Serial data output
59	XSCK	O	C	Serial clock output
60	$\overline{\text{XSTB}}$	O	C	CD LSI strobe output
61	XA0	O		Control signal distinguishing data from microcomputer
62	NC			Not used
63	BDATA	I/O	C	P–BUS serial data input/output
64	$\overline{\text{BSCK}}$	I/O	C	P-BUS serial clock input/output

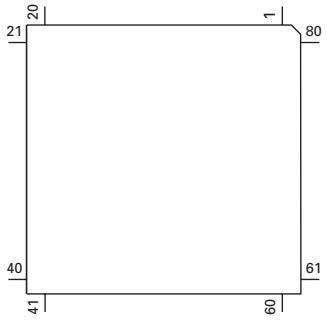
Format	Meaning
C	C MOS

● **Pin Functions (PD4723B)**

Pin No.	Pin Name	I/O	Format	Function and Operation
1	$\overline{\text{RIDRST}}$	O	C	RBDS/IDLOGIC reset output
2	RIDSEL	O	C	RBDS/IDLOGIC select output
3	NC			Not used
4	AVSS			A/D converter ground potential
5	VCAOUT	O		Sub woofer volume control
6	NC			Not used
7	AVREF	I		D/A converter reference voltage
8	KYDT	I		Communication data input
9	DPDT	O	C	Communication data output
10	$\overline{\text{SWVDD}}$	O	C	Power supply output
11	RIDDI			RBDS/ID LOGIC communication data
12	RIDDO	O	C	RBDS/ID LOGIC communication data output
13	$\overline{\text{RIDCK}}$	O	C	RBDS/ID LOGIC communication clock output
14	$\overline{\text{BRST}}$	O	C	P–BUS reset output
15	$\overline{\text{BRXEN}}$	I/O	C	P-BUS enable input/output
16	$\overline{\text{BSRQ}}$	I		P-BUS serial pole request input
17	BSIO	I/O	C	P-BUS serial data input/output
18	$\overline{\text{BSCK}}$	I/O	C	P-BUS serial clock input/output
19	VST	O	C	Strobe pulse output for electronic volume
20	VDT	O	C	Data output for electronic volume
21	VCK	O	C	Clock output for electronic volume
22	DRELAY	O	C	External relay output
23	DRSYS	O	C	Door system select output
24	STOUT	O	C	Starter cut output
25,26	NC			Not used
27	TUNPCK	O	C	PLL IC clock
28	TUNPDO	O	C	PLL IC data output
29	TUNPCE	O	C	PLL IC chip enable
30	TUNPDI	I		PLL IC data input
31	DRSENS			Door open/close sense
32	DLSENS			Door lock sense
33	VSS			GND
34	MUTE	O	C	Mute output
35	FIEOUT	O	C	FIE ON/OFF control output
36	SUBW0	O	N	Sub woofer control 0
37	SUBW1	O	N	Sub woofer control 1
38	$\overline{\text{DLED}}$	O	N	Alarm LED output
39	$\overline{\text{TMUTE}}$	O	N	Tuner mute output
40	$\overline{\text{BMUTE}}$	O	C	Bus mute output
41	ASENBO	O	C	Slave power supply control output
42	ILMPW	O	C	Illumination power supply control output
43	FM	O	C	FM power control output
44	AM	O	C	AM power control output
45	PEE	O	C	Beep tone output
46	TUNPW	O	C	Tuner power control output
47	SYSPW	O	C	System power control output
48	CDPW	O	C	CD power control
49	PCL	O	C	Clock adjustment output
50	LCDPW	O	C	LCD back light power supply control output
51	DIMMER	O	C	Dimmer output
52	SD	I		FM SD input
53	$\overline{\text{ST}}$	I		FM stereo input
54	$\overline{\text{TSENS}}$	I		Illumination sense input
55	NC			Not used
56	TX	O	C	IP BUS data output
57	RX	I		IP BUS data input
58	IPPW	O	C	Power supply control output for IP BUS interface IC
59	NC			Not used

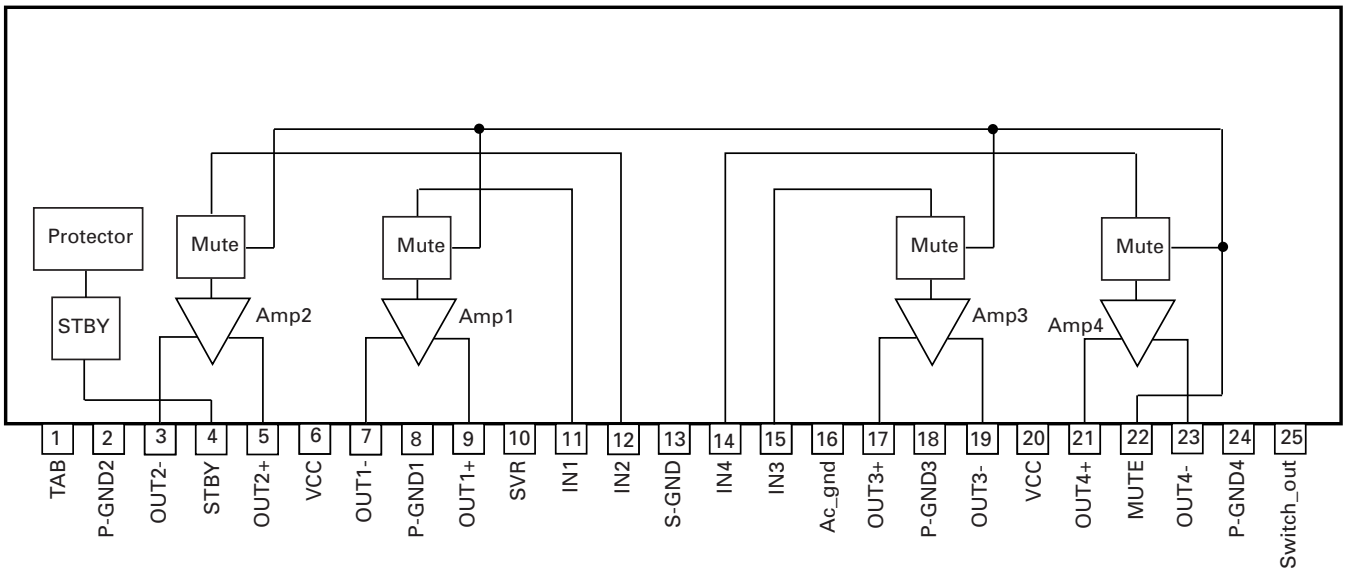
Pin No.	Pin Name	I/O	Format	Function and Operation
60	$\overline{\text{RESET}}$	I		Reset input
61	RIDRDY	I		Ready input
62	$\overline{\text{BSENS}}$	I		Back up power sense input
63	$\overline{\text{ASENS}}$	I		ACC power sense input
64	$\overline{\text{DSENS}}$	I		Grille detach sense
65	$\overline{\text{MOSENS}}$	I		Sensor input
66	NC			Not used
67	CLKIN	I	C	Clock input
68	VDD			Power supply
69	X2			Crystal oscillator connection pin
70	X1			Crystal oscillator connection pin
71	IC			GND
72	XT2			Not used
73	TESTIN	I	C	Test program mode input
74	AVDD			A/D converter power supply
75	AVREF0			A/D converter standard voltage input
76	SL	I		Signal level input
77	SEL0	I		Model select pin
78,79	NC			Not used
80	ADPW	O	C	Control output for analog input reference power

*PD4723A



Format	Meaning
C	C MOS
N	Nch open drain

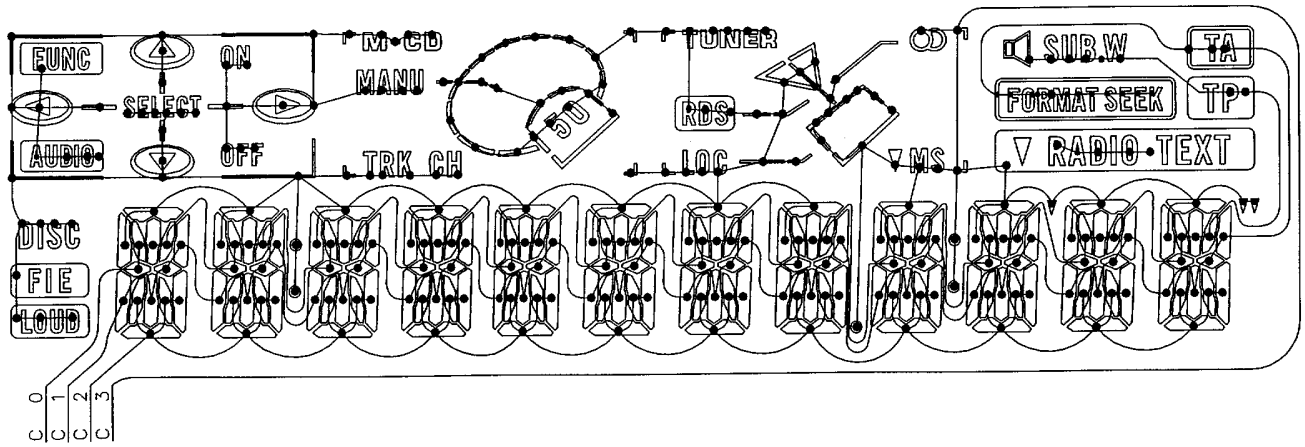
PAL005A



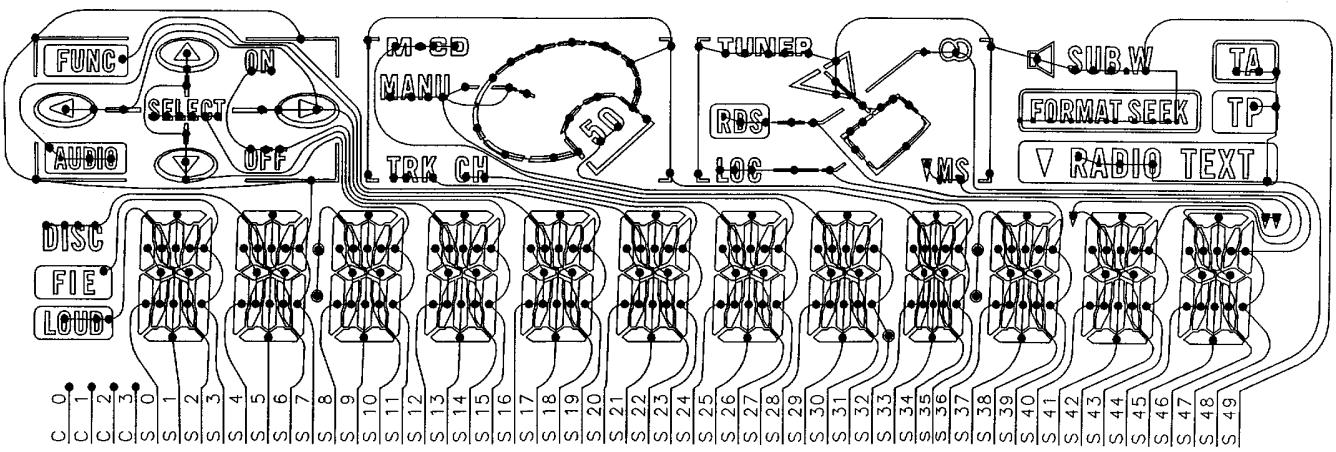
7.1.2 DISPLAY

● **CAW1390**

COMMON



SEGMENT



7.2 DIAGNOSIS

7.2.1 DISASSEMBLY

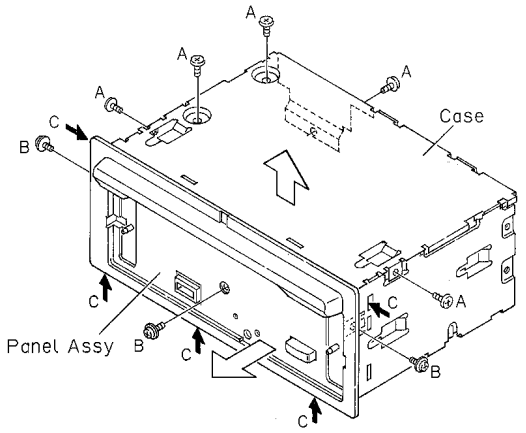
● Removing the Case

1.Remove the five screws A, and then remove the case.

● Removing the Panel Assy

1.Remove the three screws B.

2.Disconnect the five stoppers C, and then remove the panel assy.



● Removing the CD Mechanism Module

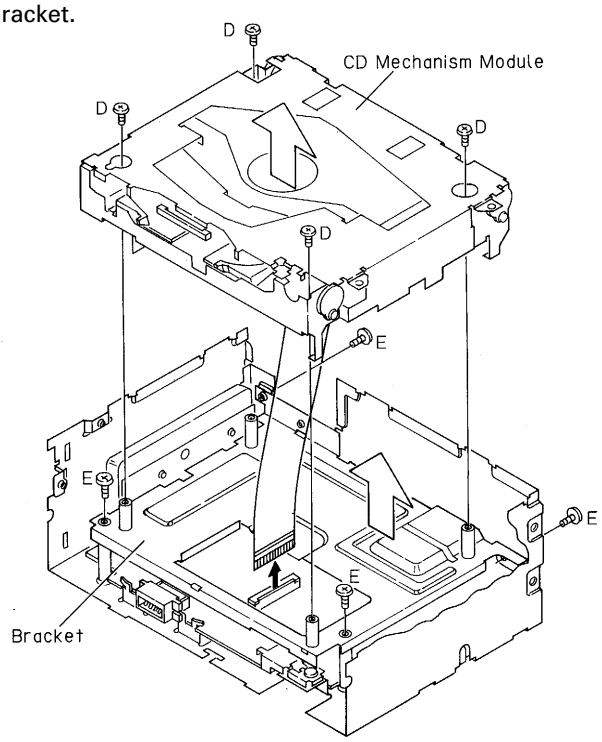
1.Remove the four screws D.

2.Disconnect the connector indicated by arrow.

3.Remove the CD mechanism module.

● Removing the Bracket

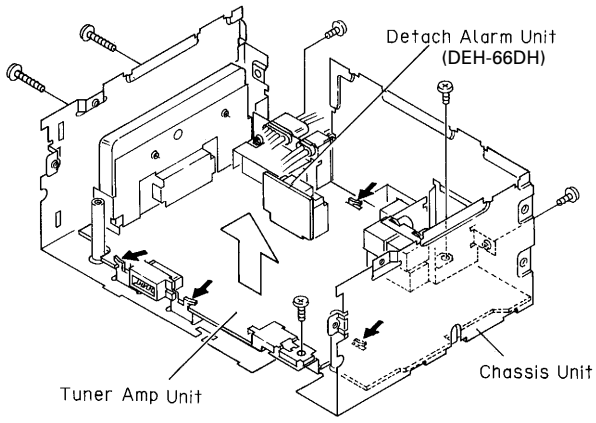
1.Remove the four screws E, and then remove the bracket.



● Removing the Tuner Amp Unit

1.Remove the six screws.

2.Stretch the four claws, and then remove the tuner amp unit.



7.2.2 TEST MODE

● Error Number Indication

If the CD should fail to operate or if an error has taken place during operation the player will enter into the error mode, and the cause of the error will be numerically indicated.

This is aimed at assisting in analysis or repair.

(1) Examples of Display

• ERROR- XX

(2) Error Codes

Error Code	Classification	Description	Cause/Detail
10	ELECTRIC	Carriage home failure	Carriage doesn't move to or from the innermost position →Home switch failed and/or carriage immobile
11	ELECTRIC	Focus failure	Focus failed →Defects, disc upside-down, severe vibration
12	ELECTRIC	Spindle lock failure Subcode failure	Spindle failed to lock or subcode unreadable →Spindle defective, defect, severe vibration
14	ELECTRIC	Mirror failure	Unrecorded CD-R The disc is upside-down, defects, vibration
17	ELECTRIC	Set up failure	AGC protect failed →Defects, disc upside-down, severe vibration
19	ELECTRIC	Set up failure	Tracking error waveform is too unbalanced (>50%) or level is too small →The P.U.unit or tracking error circuitry is N.G.
30	ELECTRIC	Search time out	Failed to reach target address →Carriage/tracking defective and/or defects
A0	SYSTEM	Power failure	Power overvoltage or short circuit detected →Switching transistor defective and/or power abnormal

● New Test Mode(aging operation and setup analysis)

The single CD player plays in normal mode. After being set up, it will display FOK (focus), LOCK (spindle), subcode, sound skip, protection against a mechanical error or the like, occurrence of an error, cause and time of an expiry, if any, (and disk number)

During the setup, the CD software operation status (internal RAM and C-point)is displayed.

(1) How to enter NEW TEST Mode

See the test mode flow chart Page 57.

(2) Relations of keys between TEST and NEW TEST Modes

Keys	Test Mode		New Test Mode	
	Regulator OFF	Regulator ON	PLAY in progress	Error Occurred, Protection Activated
BAND	Regulator ON	Regulator OFF	—	Time of occurrence / cause of error select
TR+	—	FWD-Kick	TRACK UP / FF	—
TR-	—	REV-Kick	TRACK DOWN /REV	—
1	—	Tracking close	SCAN	—
2	—	Tracking open	REPEAT	—
3	—	Focus close	RANDOM	—
6	To New Test Mode	Focus Mode Select	AUTO/MANU	—

Operations,such as EJECT, CD ON/OFF, etc. are performed normally

(3) Error Cause (Error Number) Code

Error Code	Classification	Mode	Description	Cause	Detail
40	ELECTRIC	PLAY	FOK=L 100ms	Put out of focus	Scratch, Stain, Vibration, Servo defect, etc...
41	ELECTRIC	PLAY	LOCK=L 100ms	Spindle unlock	
42	ELECTRIC	PLAY	Subcode unacceptable 500ms	Failed to read subcode	
43	ELECTRIC	PLAY	Sound skipped	Last address memory operated	

(4) Indicating an Operation Status During Setup

Status No.	Description	Protection operation
01	Carriage home mode started	None
02	Carriage moving inwards	10-second time out, Home switch failed
03	Carriage moving outwards	10-second time out, Home switch failed
05	Carriage moving outwards	None
11	Setup started	None
12	Spindle turn/Focus search started	None
13	Waiting for focus closure (XSI=L)	Failure to close focus
10,14	Waiting for focus closure (FOK=H)	Failure to close focus
15, 16, 17	Focus closed, Tracking open	Focus disrupted
18	During focus AGC Subcode waiting	Focus disrupted
19	During tracking AGC	Disrupted focus
20	Waiting for MIRR, LOCK or subcode read Carriage closed, SPINDLE=ADAPTIVE	Focus disrupted, MIRR NG, Failure to lock, Failed to read subcode

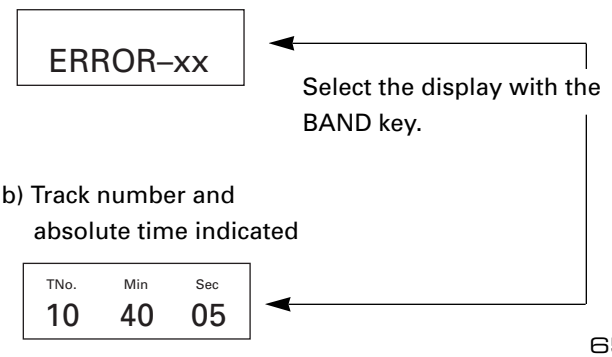
(5) Example of Display.

• SET UP in progress
8 digits display LCD

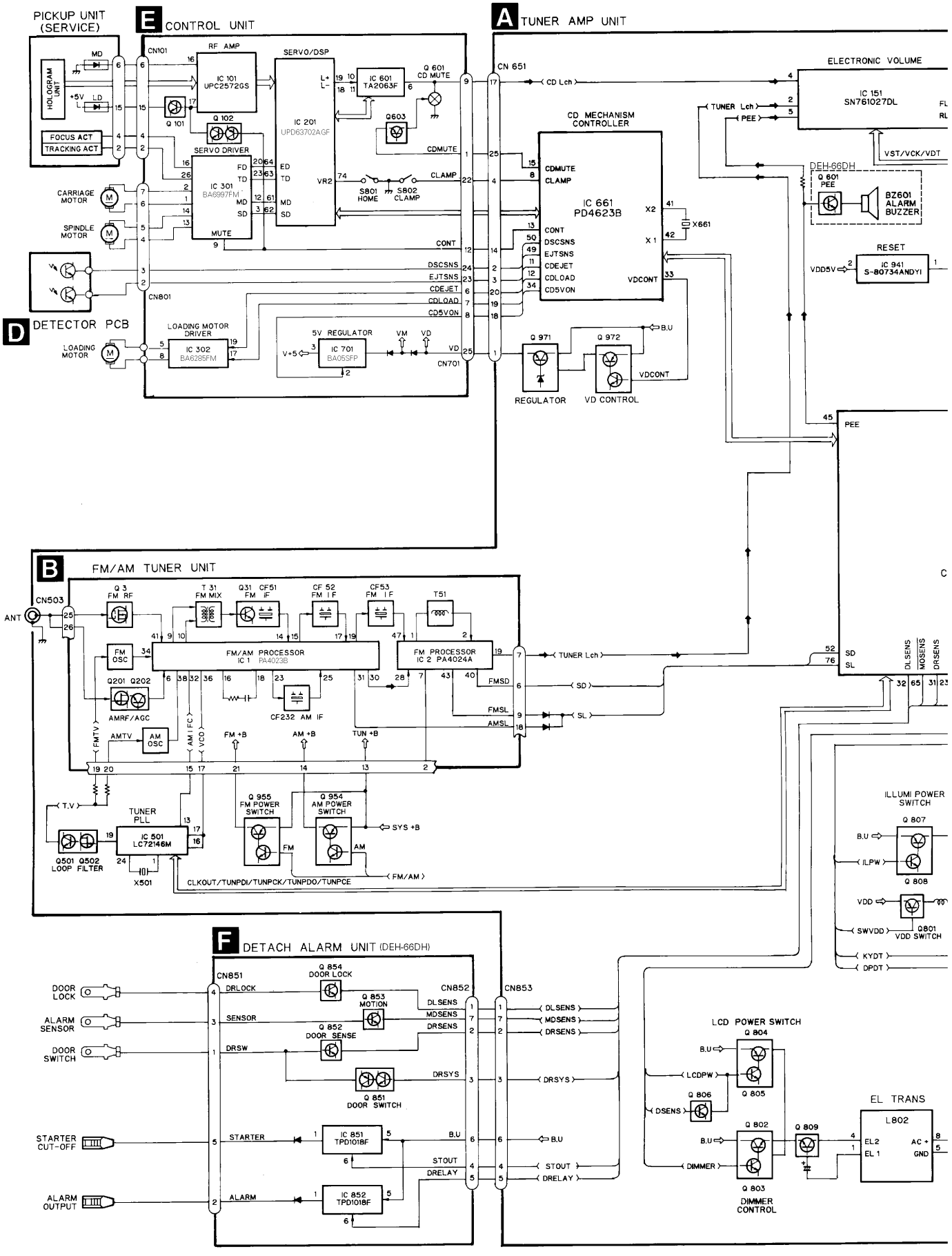
• Operation (PLAY, SEARCH, etc.) in progress perfectly identical with that in the normal mode.

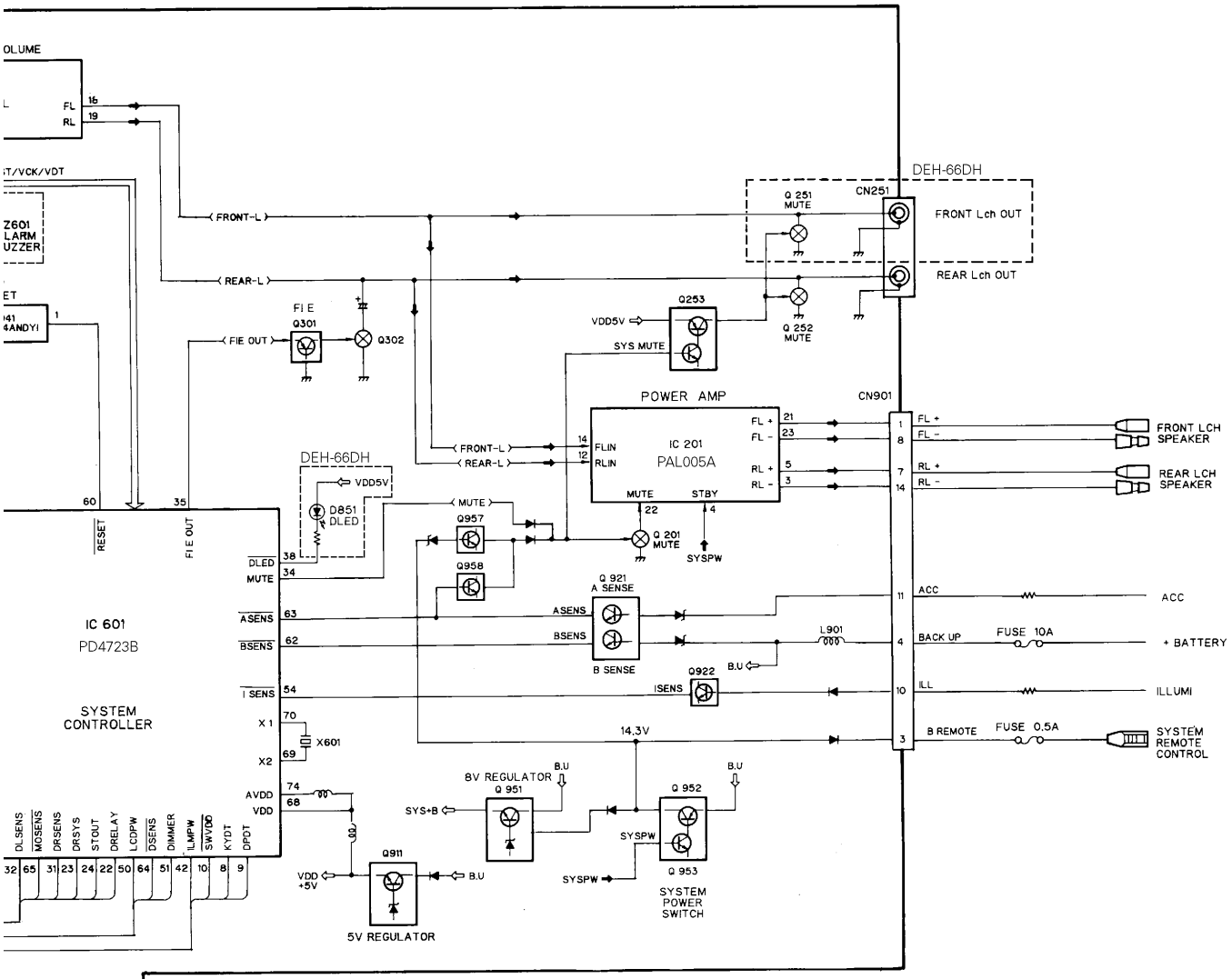
• Protection/Error upon occurrence(8 digits display LCD)

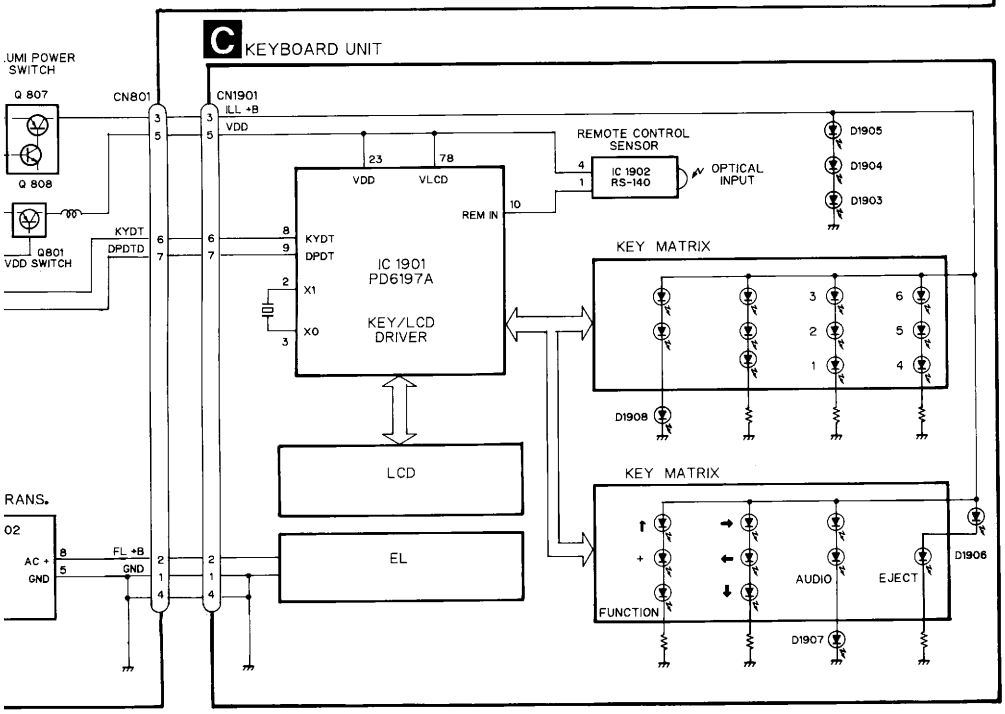
(a) Error number indicated



7.3 BLOCK DIAGRAM



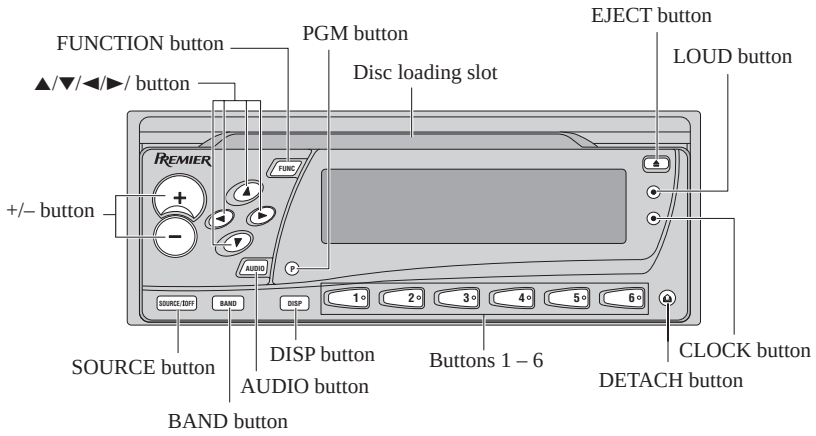

DEH-66DH
CN251
Q 251 MUTE
FRONT Lch OUT
REAR Lch OUT
Q 252 MUTE
Q253
VDD5V
SYS MUTE
FRONT-L
REAR-L
FIE
Q301
Q302
FIE OUT
POWER AMP
IC 201
PAL005A
FLIN
RLIN
MUTE
STBY
Q 201 MUTE
SYSPW
CN901
FRONT LCH SPEAKER
REAR LCH SPEAKER
IC 601
PD4723B
SYSTEM CONTROLLER
RESET
FIE OUT
DLED
MUTE
ASENS
BSENS
I SENS
X1
X2
AVDD
VDD
X601
D851 DLED
Q957
Q958
Q 921 A SENSE
B SENSE
Q922
L901
ACC
BACK UP
FUSE 10A
+ BATTERY
ILL
ILLUMI
B REMOTE
FUSE 0.5A
SYSTEM REMOTE CONTROL
14.3V
8V REGULATOR
Q 951
Q 952
Q 953
SYS+B
SYSPW
SYSTEM POWER SWITCH
Q911
5V REGULATOR
B.U
DLSENS
MOSENS
DRSENS
DRSYS
STOUT
DRELAY
LCDPW
DSENS
DIMMER
ILMPW
SWVDD
KYDT
DPDT


C KEYBOARD UNIT
ILUMI POWER SWITCH
Q 807
Q 808
Q801 VDD SWITCH
CN801
CN1901
ILL +B
VDD
REMOTE CONTROL SENSOR
IC 1902 RS-140
OPTICAL INPUT
D1905
D1904
D1903
IC 1901 PD6197A
KEY/LCD DRIVER
REM IN
KYDT
DPDT
X1
XO
KEY MATRIX
D1908
LCD
EL
KEY MATRIX
FUNCTION
AUDIO
EJECT
D1906
D1907
TRANS.
AC +
GND
FL +B

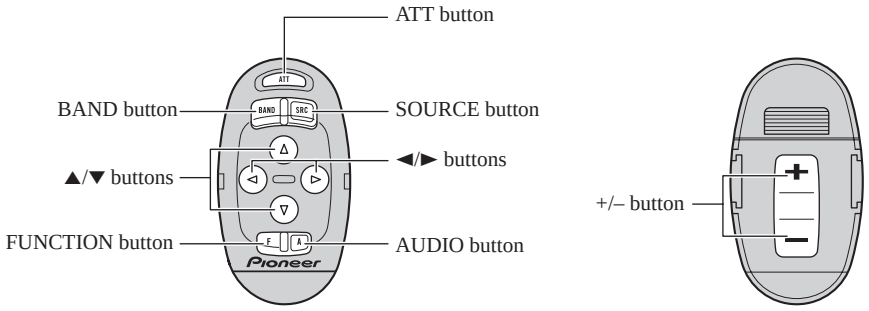
8. OPERATIONS AND SPECIFICATIONS

Key Finder

Head Unit



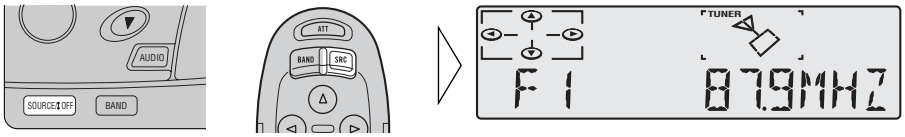
Steering Remote Controller



Basic Operation

Switching Power ON/OFF

- **Select the desired source (such as the tuner).**



Each press of the SOURCE button selects the desired source in the following order:
Built-in CD player → Tuner

To switch the sources OFF, hold down the SOURCE button for 1 second or more.

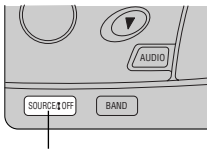
Note:

- The sound source will not change if no disc is set in this product.

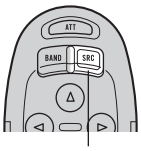
Tuner Operation

Basic Operation of Tuner

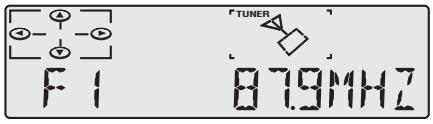
1. Select Tuner.



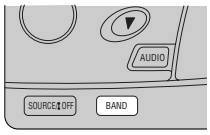
Each press changes the Source ...

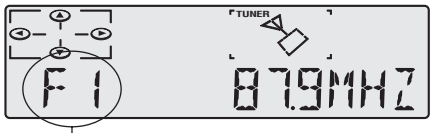


Each press changes the Source ...



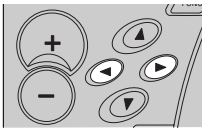
2. Select the desired band.

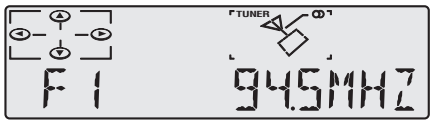




F1 → F2 → F3 → AM

3. Tune the receiver to a higher or lower frequency.



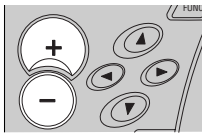


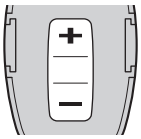
This product's tuner lets you select the tuning by changing the length of the time you press the button.

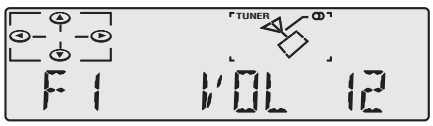
Manual Tuning (step by step)	0.3 seconds or less
Seek Tuning (automatically)	0.3 – 2 seconds
Manual Tuning (continuously)	2 seconds or more

Note:
• "◯◯" indicator lights when a stereo station is selected.

4. Raise or lower the volume.

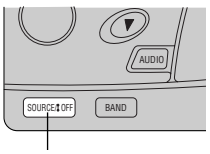




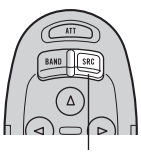


Continued overleaf

5. Turn the source OFF.



Hold for 1 second



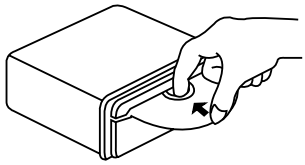
Hold for 1 second

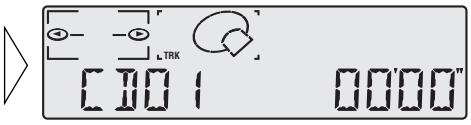
Using the Built-in CD Player

Basic Operation of Built-in CD Player

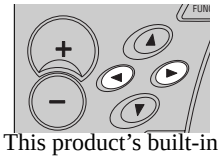
The built-in CD player plays one standard 12 cm or 8 cm (single) CD at a time. Do not use an adapter when playing 8 cm CD.

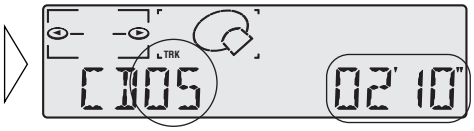
1. Insert the disc with the recorded (iridescent) surface down.





2. Select the desired track (and phrase).

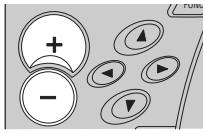


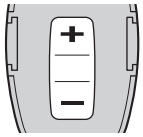


This product's built-in CD player lets you select the track search function or fast-forward/reverse function by changing the length of the time you press the button.

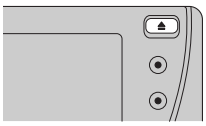
Track Search	0.5 seconds or less
Fast-forward/Reverse	Continue pressing

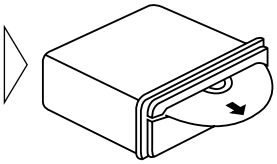
3. Raise or lower the volume.





4. Remove the disc.





Note:

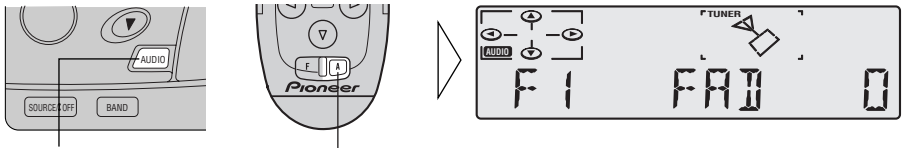
- The CD function can be turned ON/OFF with the disc remaining in this product.
- Discs left partially inserted after ejection may incur damage or fall out.
- If a disc cannot be inserted fully or playback fails, make sure the recorded side is down, push the EJECT button and check the disc for damage before reinserting it.
- If a CD is inserted with the recorded side up, it will be ejected automatically after a few moments.
- If the built-in CD player cannot operate properly, an error message (such as "ERROR-14") appears on the display.

Audio Adjustment

Entering the Audio Menu

In this menu, you can adjust sound quality such as fader/balance and bass/treble settings.

- **Select the mode you want to adjust in Audio Menu.**



Each press changes the Mode ...

Each press changes the Mode ...

Each press of the AUDIO button selects the mode in the following order:
FAD → BAS → TRE → LOUD → FIE

To cancel the Audio Menu, press the BAND button.

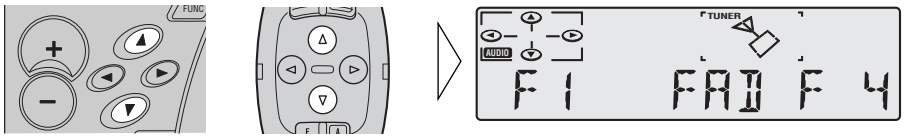
Note:

- After entering the Audio Menu, if you do not perform an operation within 30 seconds, the Audio Menu is automatically canceled.

Balance Adjustment

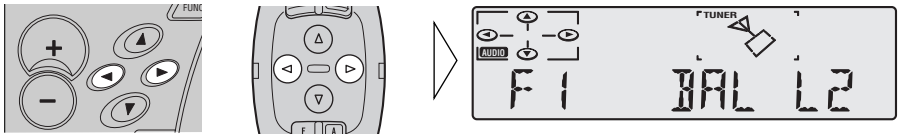
This function allows you to select a Fader/Balance setting that provides ideal listening conditions in all occupied seats.

1. **Select the Fader/Balance mode (FAD) in the Audio Menu.**
2. **Shift the balance progressively to the front or rear speakers.**



"FAD F15" – "FAD R15" is displayed as it moves from front to rear.

3. **Shift the balance to the left or right speaker, respectively.**



"BAL L9" – "BAL R9" is displayed as it moves from left to right.

To cancel the Audio Menu, press the BAND button.

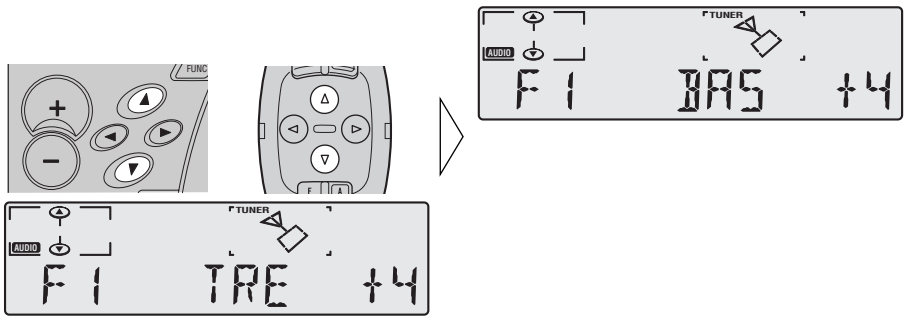
Note:

- "FAD 0" is the proper setting when 2 speakers are in use.

Bass/Treble Adjustment

This product is equipped with two tone adjustment modes, the Bass (BAS) and Treble (TRE) modes.

1. **Select bass mode (BAS) or treble mode (TRE) in the Audio Menu.**
2. **Increase or decrease the intensity of the bass or treble, whichever is selected.**



The display shows “+6” – “–6”.

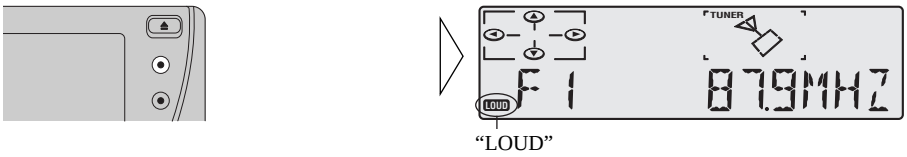
3. **Repeat steps 1 – 2 above for the other Bass or Treble adjustment.**

To cancel the Audio Menu, press the BAND button.

Loudness Adjustment

The Loudness function compensates for deficiencies in the low and high sound ranges at low volume.

- **Switch the Loudness function ON.**



“LOUD”

To cancel the Loudness function, repeat the preceding operation.

Note:

- You can also switch the Loudness function ON/OFF in the Audio Menu.

Specifications

General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)
Grounding system ..... Negative type
Max. current consumption ..... 10.0 A
Dimensions
(mounting size) ..... 198 (W) × 78 (H) × 135 (D) mm
[7-3/4 (W) × 3-1/8 (H) × 5-3/8 (D) in.]
(nose) ..... 190 (W) × 62 (H) × 21 (D) mm
[7-1/2 (W) × 2-1/2 (H) × 7/8 (D) in.]
Weight ..... 2.1 kg (4.6 lbs)

Amplifier

Continuous power output is 22 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.
Maximum power output ..... 45 W × 4
Load impedance ..... 4 Ω (4 – 8 Ω allowable)
Preout maximum output level/
output impedance ..... 1.8 V/1 kΩ
Tone controls
(Bass) ..... ±12 dB (100 Hz)
(Treble) ..... ±12 dB (10 kHz)
Loudness contour .... +10 dB (100 Hz), +6.5 dB (10 kHz)
(volume: –30 dB)

CD player

System ..... Compact disc audio system
Usable discs ..... Compact disc
Signal format ..... Sampling frequency: 44.1 kHz
Number of quantizatin bits: 16; linear
Frequency characteristics ..... 5 – 20,000 Hz (±1 dB)
Signal-to-noise ratio ..... 94 dB (1 kHz) (IHF-A network)
Dynamic range ..... 90 dB (1 kHz)
Number of channels ..... 2 (stereo)

FM tuner

Frequency range ..... 87.9 – 107.9 MHz
Usable sensitivity ..... 11 dBf
(1.0 µV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity .... 16 dBf (1.7 µV/75 Ω, mono)
Signal-to-noise ratio ..... 70 dB (IHF-A network)
Distortion ..... 0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response ..... 30 – 15,000 Hz (±3 dB)
Stereo separation ..... 40 dB (at 65 dBf, 1 kHz)
Selectivity ..... 70 dB (2ACA)
Three-signal intermodulation
(desired signal level) ..... 50 dBf
(two undesired signal level: 110 dBf)

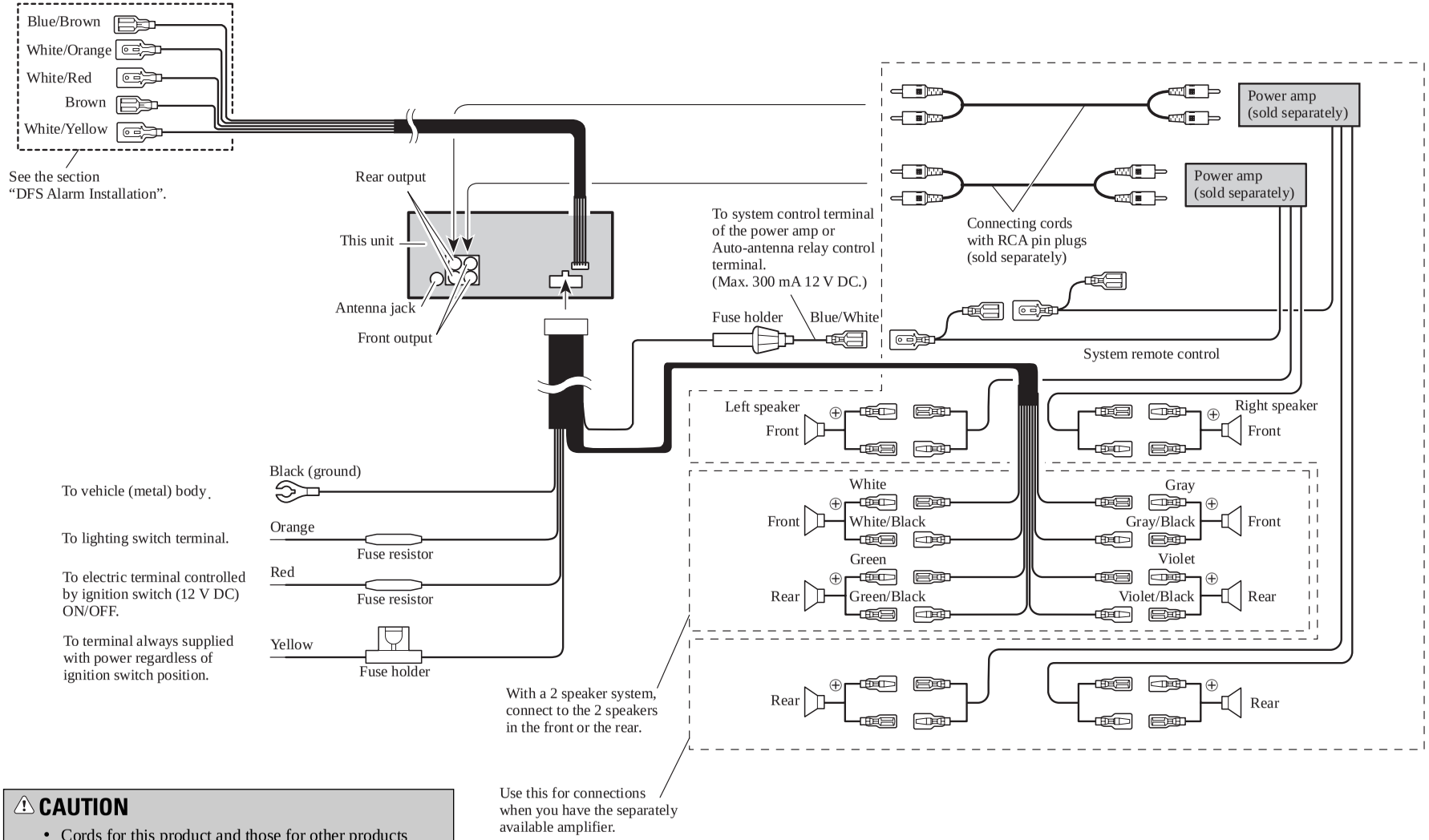
AM tuner

Frequency range ..... 530 – 1,710 kHz
Usable sensitivity ..... 18 µV (S/N: 20 dB)
Selectivity ..... 50 dB (±10 kHz)

Note:

- Specifications and the design are subject to possible modification without notice due to improvements.

Connection Diagram



⚠ CAUTION

- Cords for this product and those for other products may be different colors even if they have the same function. When connecting this product to another product, refer to the supplied Installation manuals of both products and connect cords that have the same function.